



# 14TH TOULON-VERONA CONFERENCE

## “Organizational Excellence in Service”

### 1st-3rd September 2011

## CONFERENCE PROCEEDINGS



Universitat d'Alacant  
Universidad de Alicante



UNIVERSIDAD DE OVIEDO

University of Alicante – University of Oviedo  
Spain

I.S.B.N.: 978 88904327-1-2

## TABLE OF CONTENTS

- Abbate T, Alibrandi A, Souca M: University and Sports: how to improve the CUS services?.
- Abrahamsson S, Hansson J, Isaksson R: Integrated Management Systems - testing a model for integration.
- Álvarez-Suárez A, Fuentes R: Productivity of travel agencies: a comparative analysis.
- Alvira F, Aguilar M, Betrisey D, Blanco F, Lahera-Sánchez A, Mitxelena C, Velázquez C: Quality and evaluation of teaching in Spanish universities.
- Ambaglio C, Bottinelli L, Pavione E: An evaluation model for the effectiveness of the General Practitioner (GP) in the Italian Health Care System.
- Angelini A: The supplier's contribution to the value co-creation process and the effect on business value.
- Angioni E, Cabbidu F, Di Guardo M: Value co-creation through multichannels distributions: the Nike ID case.
- Antunes G, Pires A: Improving ISO 9001:2008 with six sigma methodology.
- Arshad K, Rafique T, Ishaque A, Nisar A: Developing a Suitable Framework for Appropriate Project Management Application for IT Industry of Pakistan.
- Baccrani C, Brunetti F: The need for customer education in high people-density services: a new role for service providers?.
- Baldantoni E, Torri E: Waiting Lists in a Public Health Service: a Fact of Life or Time for a Change?.
- Barać D, Bogdanović Z, Milić A, Jovanić B, Radenković B: Developing adaptive E-learning portal in Higher Education.
- Barradas J, Sampaio P: ISO 9001 and ISO 17025 standards in a metrology laboratory.
- Bertezene S, Ferraton C, Martin J, Vallat D: Improving the quality of the coaching process for entrepreneurship: a study of the case of France.
- Bertezene S, Martin J: Implementing an ethical governance in homes for the elderly.
- Biancone P, Bechis M, Serlenga: Management system and control model for corporate fraud accountability (1).
- Biancone P, Bechis M, Serlenga: A management system and control model for corporate fraud accountability (2).
- Biancone P: The mediation as a high quality service to resolve disputes.

Bifulco F, Raimondo C: Lean management in health care organizations: new experiences in Italian context.

Bonfanti A, Castellani P, Rossato C: Geomarketing to support the strategies of the Gardaland Amusement Park.

Brown A: Staying excellent: Managing challenges to excellence.

Cano M, Drummond S, Kourouklis A: A Model for benchmarking Service Quality: small hotels on the periphery.

Cano M, Kobi A: Evaluation of Continuous Improvement Approaches within the Scottish Manufacturing Sector.

Cassia F, Cobelli N, Gill L: Generic medicines non-adoption: investigating the perceptions and attitudes of customers and the role of health professionals' service network.

Cavallone M, Modena M: Customers' perception of banking services' quality: an empirical evidence.

Ciasullo M, Troisi O: The creation of sustainable value in SMEs; a case study.

Cocks G: Identifying opportunity gaps in the quest for excellence.

Cocks G, Mueller J, Inglej C: Competence gaps in company directors in New Zealand.

Confente I: Word of mouth in the tourism industry: an empirical investigation of service experience.

Corbetta C, Dassi G, Francesconi A, Zoli A: The first implementation in Italy of 112 as unique emergency dial number (UEN). The Varese project managed by AREU.

Covarrubias Venegas B, Gaedke G, Janous G, Recker S: Quality management at institutes of higher education; Development of measures to reduce dropouts and leaves of absence at the FH Wien University of Applied Sciences of WKW.

Cugno A, Scilla A: New technology for Strategic Management Policy in Small Areas: the 'GIS Piedmont region'.

Dessi S, Giudici E, Ramos B: How teachers and students may work to build a more sustainable world.

Dimitrijevic, M.Z. : Virtual university corporation: Key strategy in creating competitive advantage in higher education in third world countries.

Dobrota M, Bulajic M, Radojicic Z: Data mining in medicine: using cart for prediction of outcome in septic patient treatment.

Drakulić M, Krivokapić D, Mirković M: Public Administration, Communication Technologies and Crowdsourcing: Opportunity for Social Change.

Esposito A: Insights about communication planning in Health Care: An exploratory study.

Fontes da Costa J, Oliveira T: Professional Identity and the Psycho-Social Contract: The ideological link to commitment.

Fraquelli G, Menozzi A: Competition in the organized retail market and the role of brand: empirical evidence in an Italian town.

Fuentes, R., Lillo-Bañuls, A., Perles-Ribes, J.: Technology and training in tourism economics: a preliminary study of the suitability of tools.

Galluci C, Bellelli P, Saccà G: The assessment of cultural experience through learning processes: a model for individual, firm and territory system viable competitiveness.

Gomes Dos Santos G, Han D, Reiner G, Stoffel K: Method for screening sustainability reports in the financial services industry.

Li H: Building China's rural health care performance evaluation system: a Tuscan perspective.

Isaksson R: University Support to Regional Development – Process Based Stakeholder Management in Gotland.

Lagrosen S, Lagrosen Y: The learning process of health service procurement.

Ljungblom M, Isaksson R: Educational value in distance and in campus education seen from a stakeholder perspective; the case of Sweden.

Lloret Llinares M, Evangelio LLorca R, Pastor Alfonso J, Valero Escandell J, Fuentes R, Such Climent M: Surveys as an instrument for evaluating the educational process: an experience in the tourism degree of the University of Alicante.

Lombardo A, Barone S: Manager's and citizen's perspective of positive and negative risks for small probabilities.

Magno F, Cassia F: Are citizens always right? Investigating why citizens' inputs are not always beneficial to public services co-production.

Maletic P, Kreca M, Jeremic V, Djokivic A: Towards uniformly developed municipalities; a Serbian perspective.

Malinconico A, Frigerio C: Alternative dispute resolution techniques can work for better services? The case of Italian banking industry.

Mano M, Carvalho F, Silva M, Rocha F: Implications on the design and methodology of a strategic planning process in a university.

Marino A: From prosumers to persumers: the implementation of a real involving (services) marketing.

Martinez M., Pezzillo Iacono M: Public-private partnerships in the Italian health sector: the analysis of organizational forms.

Martinez M, Pezillo Iacono M: Organizational change, compliance and management control systems: a survey on Italian public utilities.

Martin S, Garner W, Arokiam I, Wilson I: Coventry University Business Improvement Training (CUBIT) The application of Lean Thinking within the UK university sector.

Martin J, Nguyen Minh Tuan: Maintaining ISO 9001 certification The case of Vietnam.

Masiello B, Marasco A, Izzo F: Co-innovation in creative-intensive business services: the role of clients in advertising agencies' innovation processes.

Matias D, Sampaio P, Braga A: ISO 9001 Certification: the customer's perspective.

Mauri A, Minazzi R: The impact of hotel reviews posted by guests on customers' purchase process and expectations.

Miglietta A, Pessione M, Cassia F: Facilitating network-building services for social innovation: the case of "The HUB (Milano)".

Moura e Sá P, Maia I: Schools self-assessment: a study on the levels of stakeholders' involvement in the process.

Moyes D: The development of customer relationship capital by small rural service firms.

Nadin G, Pacenti G: CARE SERVICES IN COMMUNITY PHARMACIES: THE ITALIAN PHARMACIST'S PERSPECTIVE.

Obradović T, Dmitrović V, Latinović M: Application of contemporary cost management concept in Serbian local government.

Passaro P, Carella R, Russo L : The management of a project for the services quality improvement in the tourism sector -The Emas/Ecolabel certification of a touristic structure in South Italy- .

Pellicano M, Ciasullo M, Monetta G, Galvin M: An in-depth study of public administrations: the shift from citizen relationship management to stakeholder relationship governance.

Pellicano M, Monetta G: Innovative systems in Italian tourism, so-called "extended" hotels.

Pereira Louro A, Lourenço L, Saraiva P: Methodologies for integrated quality assessment in higher education institutions.

Petrović N, Drakulić M, Išljamović S, Jeremić V, Drakulić R: Methodological improvement for higher environmental education: a flexible approach.

Pies A, Gonçalves H: Higher education dropout: exploratory study in the Polytechnic Institute of Setubal.

Qureshi A, Afzal S: Study of the Pressure on Faculty Members Regarding Passing the Students.

Raanan Y: A new paradigm for higher education.

Rolo Alves A, Ramos Pires A: Organizational change and design for strategy deployment  
Rodriguez-Donaire S, Garcia-Almiñana D, Barodzich I: The combination of Web-Based Communication Mechanisms and Wiki Environment enable Superior Performance Achievements.

Romenti S, Minazzi R, Murtarelli G: Online relationships and dialogue orientation in the Italian hospitality industry.

Sarti D: People management in welfare sector; an empirical investigation on job satisfaction among people-care workers in Italy.

Savic S, Bulajic M, Savic G: Efficiency prediction of a new participant in the market on the example of the banking sector in Serbia.

Shahidan M, Netadj M: Logistic impact on food price.

Simčič B, Poldrugovac M: Towards an estimate of adverse events in health care in Slovenia: challenges in implementing a national survey.

Vera Silva C, Lourenço L, Mendes L: The influence of TQM on employees' work-related attitudes and behavior.

Silva M, Mano M; Saraiva P: Public Sector Assessment by Mapping Organisational Creativity.

Splendiani S, Pencarelli T, Dini M: Tourism Enterprises and Sustainable Tourism: empirical evidence from the Province of Pesaro Urbino.

Styger L: An Analysis of the Restrictions on the Competitive Readiness of Australian Businesses Due to Their Lack of Formal Quality Management Systems.

Suárez A, Alonso J, Martís R, Albañil P 1, Pascual M: Spin-off for the management for the quality and innovation in the university of Oviedo; Technical Office for Quality and innovation (TOQi) .

Suárez A, Pascual M, Alonso J, Fuentes R, Catalán C, Martís R: Teaching innovation projects associated with the introduction of the new information technologies (ICTS) improve expected educational results: the case of engineering studies at the university of Oviedo.

Testa F, Simeoni F: The relevance of economic reasons for governmental choices on renewable energies in Italy.

Tomašević I, Stojanović D, Simeunović B, Radović M, Andrić-Gušavac B : Creating value in higher education institutions.

Tucker W: What's In a Name? Quality in the Public Sector After the Great Recession.

Tzannis A, Nadin G: Elderly and health care services: the elements characterizing the patient satisfaction.

Vigolo V: Quality and destination image: differences between visitors and non-visitors; an Italian perspective on South Africa.

Visnjic I, Neely A: Business model Innovation of Complex Service Providers: A Quest for Fit.

Vujin V, Petrovic N, Iščjamovic S, Vuk D, Senegačnik M: Mobile learning and improvement of environmental education.

Zineldin M, Zineldin J, Vasicheva V: Approaches for reducing medical errors and increasing patient safety: TRM, quality and 5QS method.

# UNIVERSITY AND SPORTS: HOW TO IMPROVE THE CUS SERVICES?

**Tindara Abbate**, University of Messina, Italy, [abbatet@unime.it](mailto:abbatet@unime.it)

**Angela Alibrandi**, University of Messina, Italy, [aalibrandi@unime.it](mailto:aalibrandi@unime.it)

**Maria Luiza Souca**, “Babeş-Bolyai” University, Romania, [luiza.souca@econ.ubbcluj.ro](mailto:luiza.souca@econ.ubbcluj.ro)

## Abstract

The design and implementation of a value proposition requires commitment by firms which should constantly readapt goods and services to customers' expectation and environmental feedback. The aim of this work is to discuss preliminary results from an exploratory survey conducted by University Sports Center of Messina (CUS) on a sample of 302 students, identified by proportional stratified sampling among those registered in each of the ten Faculties of the University. The questionnaire, online and offline distributed, wanted to gather information on the interviewees' attitudes to sport and on their level of knowledge of CUS and its activities and services. From the analysis of the data some important issues were identified in order to improve the market positioning of the Center, to implement the portfolio of goods and services and to define new tools to make students active contributors in the definition of strategic choices.

Keywords: *sport services, university, CUS, positioning*

## 1. Introduction

The aim of this paper is to analyze the University of Messina students' level of knowledge regarding the University Sports Center of Messina (CUS), especially of its activities and of the services it provides. The main objective of the analysis is to highlight the students' attitude in regards with sports activities and to identify their preferences about those particular activities. The basic hypothesis we are working on is that the exploratory analysis of the data we have gathered from the target sample should provide all the information needed to help CUS position itself in the minds of its clients with a value proposition that is clear and attractive. However, in order to do that, first we had to analyze whether sport is a business or just social interactions, why should a sport organization create a distinctive positioning in the minds of its customers and how should the value proposition be created in order to do just that.

## 2. Sport: between business and leisure activity

Many of the sports today have their origin in primitive hunting and warring activities (necessary for survival), while competitive games began primarily as rituals designed to win the favor of the gods or to honor the memories of “heroic leaders” (Baker, 1988:1). So there is no wonder that the rules of contemporary sports continue to focus on competitiveness,



survival, defense of one's territory and winning, while, at the same time, the players engage in social interactions that are an opportunity for learning, honing personal skills and showing off individual abilities. According to Humphreys and Ruseski (2008), sport is a complex activity that encompasses everything from events (i.e. Summer and Winter Olympic games) to informal pick-up games (i.e. urban basketball courts). They highlight that sport is an industry characterized by three major activities involving: individual participation in sport; attendance at sporting events; watching sport events on some media.

The fact that contemporary sport is not just a convenient or casual way of filling leisure time, but also an important cultural institution that delivers significant social benefits to a diverse spread of communities, was recognized by the 2000 Nice Declaration on Sport (European Council, 2000). The recent White Paper on Sport (Commission of the European Communities, 2007) confirmed sport's unique status when it announced that the specificity of European sport can be approached through two prisms: the first in the form of the specificity of sporting activities and rules includes the provisions for preserving competitive balance and outcome uncertainty; the second, the specificity of the sport structure, in the form of its pyramidal representation and peak authorities (Smith and Stewart, 2010).

Is sport a business? Several researchers (Mangan and Nauright, 2000; Hess and Stewart, 1998; Hess, Nicholson, Stewart, and De Moore, 2008) have reached the conclusion that sport is a unique cultural institution that operates in a commercial environment. Slack (1998), ten years earlier, had indicated that the management of sport was differentiated from general management due to a belief in the social value of sport, rather than on the exclusive basis of its economic value. Still, even if seen as a unique institution, sport and business have in common the concern for value creation, branding, funding new sources of revenue, product innovation and market expansion, while admittedly sport is significantly more concerned with beating rivals, winning trophies, sharing revenue and channeling the passions of both players and fans (Foster, Greyser and Walsh, 2006). Consumer behavior studies state that sport consumers use sport to meet their important psychological, social and cultural needs ranging from escapism, stimulation, entertainment, national pride, cultural celebration, a sense of community, personal identity and extending their personal sense of self (Armstrong, 2002; Chen, 2007; Crawford, 2004; Fink, Trail, and Anderson, 2002; Funk, Mahony, Nakazawa, and Hirakawa, 2001; Hinch and Higham, 2005; Milne and McDonald, 1999; Zhang et al., 2001). In addition, Smith and Stewart (2010) reach the following conclusions: failure to recognize that sport is a business will produce poor performance and managerial strategies that don't take into consideration the sport market dynamics will fail to deliver optimal outcomes.

The final definition is that sport is an industry which is focused on the manufacturing of sport related goods, services, and ideas through the combination of sport activities with business, mass media, and politics, while maximizing its economic profits and social effects. To achieve these goals, business, media, and politics cooperate on the basis of interdependence, where marketing initiatives act as a bridge linking them (Blain, 2002).

### **3. The role of positioning for sport organizations**

The marketing strategies, that can be applied to sport societies, are, in a way, the same applicable to other types of economic activities, only with an emphasis on the sport connection: celebrity endorsement and personal branding when it comes to single athletes, the marketing mix for the manufacturers of sporting goods and suppliers of sports related services and event marketing for the societies and clubs (Cherubini and Canigiani, 2000). However, the definition of marketing strategy for any organization cannot begin without analyzing the

market and identifying an effective and distinctive positioning in minds of the consumers, necessary for stimulating the purchase of the firm's products and services (Kotler, 1994).

Several researches highlight that positioning is a fundamental concept for the modern marketing management (Kotler, 2000; Hooley, Saunders and Piercy, 1998). Its importance is further supported by the evidence that there is a direct positive link between a company's performance (in terms of profitability and efficiency) and clearly defined positioning activities (Brooksbank, 1994; Devlin, Ennew and Mirza, 1995; Porter, 1996).

The firsts to popularize the term and to develop it further than its origin as market segmentation were Jack Trout and Al Ries (1986) when they first tried to define positioning as the way in which the company can differentiate itself in the minds of its prospects. This view was enriched by Trout (1996) with the assertion that positioning also implies a constant, simple and clear message communicated to targeted consumers, and in 2010 Trout expands the term's family with "repositioning" as the way in which a company can adjust perceptions about itself or the image of its competitors in the mind of the targeted market segment.

There are two steps in the successful positioning process: establishing the initial market offering in the minds of consumers; and differentiating the market offering from competitors in the minds of consumers. (Darling, 2001). This approach is applicable when it comes to sports marketing as well. Considering that sport is an industry which is focused on the manufacturing of sport related goods and services, it means that the general business positioning approach is recommendable for sport organizations. In effect it can be said that sport companies need positioning because they compete for every customer they seeks to attract - for the customers' time and financial effort when it comes to the buying process, but also for their attention in order to secure a recognizable comparative position in their minds in harmony with the customers cultural base (Nakata and Sivakumar, 1996).

In conclusion, creating a successful positioning in the mind of the consumer is a complex process that involves the formulation of a marketing offering, or a marketing mix, while taking in consideration that positioning is not what a firm does to the marketing mix. Positioning is what is done in the minds of prospective customers through the various components of the marketing offering, that's why developing an effective and successful positioning strategy must begin with research to define the target market in addition to analyzing the key factors that are characteristic of the market offering: the formulation of the product/service; defining the price; the distribution and the communication or promotion sub-mixes.

#### **4. The marketing mix for sport organizations**

Professional teams, small colleges, high schools, sports clubs and youth programs, all look for a better way to attract and maintain consumers through sports. They know that the competition for limited resources such as time and money is tight, the rivals including mega movie complexes, Internet providers, museums, theatres and concert halls, that's why each organization has to define and implement strategies that will lead them to meeting the sports consumers with sport products and services adapted to the customers' needs. In other words, the sport organizations need to develop a marketing mix that is suitable for their target.

The sport product is a complex construct of services, characteristic that makes it intangible and subjective. Because of this, the sport product is hard to sell and to have its quality standardized. That is why the customer has problems objectively judging the quality of the product, or comparing it with other similar products (providers), the decision to purchase being based on the perceived satisfaction of the whole experience. To make it more tangible and in turn more attractive to the client, the sport product must either receive physical evidence, or be associated with clear advantages that will differentiate it by its competitors.

The price, as the second element of the mix, enables the society to estimate the cash flow from the possible product mix scenarios while at the same time being linked to positioning decisions regarding the competition, as well as to how the customers perceive the value of a product.

The third element of the marketing mix, the place, or the sport facility, is according to Westerbeek and Shilbury, (1999) the most important component of the sport marketing mix, due to the fact that the sport product is not physically distributed. In this case, in order to benefit from the product, the consumer must go to the sport facility a characteristic that creates additional decrease of his resources, both financial and time. Also the location, surroundings and architecture each contribute to the overall experience of the sport consumers and implicit on his satisfaction (Wakefield and Blodgett, 1994).

Due to the intangibility of the sport product, promotions - the last of the mix component discussed here - should also add to the physical evidence and create reasonable expectations while pointing out all the benefits of physical activities by associating them with elements such as fun, safe, comfortable or familiar. The use of new technology, internet and social networks are the new means through which promotion can be distributed among potential customers. The advertisement should be vivid, using relevant tangible objects, concrete language and or dramatizations such as photographs of past events, listing of services and explanations of different product offerings.

There is one phenomenon that can threaten the correct identification of the marketing strategies and tactics suitable for each component of the marketing mix. Named the "marketing myopia" (Levitt, 1975), it was explained as "the lack of foresight in marketing ventures" and has the following standard symptoms: a) a focus on producing and selling goods and services rather than analyzing, identifying and satisfying the needs, the requests and the wants of the customers; b) confusion between promotion and marketing. The first includes advertising and events and it has to be considered as a part of the integrated marketing strategy that begins with knowing the consumer wants.

In order to avoid it, the management of the sport organization must shift its focus, from product centric, to customer centric, so that the marketing mix and its specific strategies can then be pointed to ensuring the customer satisfaction. Why customer satisfaction? Because when defined as "an attitude-like judgment following a purchase act or based on a series of consumer product interactions" (Fournier and Mick, 1999, p. 5), customer satisfaction becomes a central and powerful construct in marketing (Oliver, 1997). Furthermore customer satisfaction influences loyalty (Anderson and Sullivan, 1993; Matzler, Füller and Faullant, 2007), recommendations to others, or word-of-mouth marketing (Cronin and Taylor, 1992; Hui, Wan and Ho, 2007), and profitability (Anderson, Fornell and Lehmann, 1994)

However, in order to achieve customer's satisfaction, and through it economic success, is not an easy task for the sports organization. It will depend solely on choosing the right marketing strategy. And while the strategy can't begin without a careful marketing research on the customer's needs, want, attitudes, values and perceptions, it is equally as important to ensure that the final result, through the appropriate marketing efforts and tactics, is a correct positioning of what the organization has to offer the mind of its clients. That's why, the focus of this paper and the research conducted for it is not only to show the how the University of Messina students relate to sport what their preferences are, but to also show how CUS can create a value proposition for its customers in the view of a clear and active positioning of its image.

## **5. CUS Messina**

In 1946 the University Sports Center of Messina (CUS) was created by a group of students passionate about sport. Throughout the years since its creation, CUS gave Italy several athletes of real value such as Franco Varese, the middle-distance runner, winner of the 1500 m course at the European Championship in Helsinki in 1971, Annarita Sidoti, gold medalist at the World Championship in Athens 1997 for the 10 km march course, or Giovanni Scalzo, winner of four fencing Olympic medals. Also, the center was involved in a series of events created to its promotion, the most recent one being the World Championship of University Baseball in 2002, which made it known at national and international level.

As an organization, CUS Messina is an amateur sporting association, with legal status, part of the Italian Sports University Centers (CUSI). Its main objective is to promote sports, to spread the culture, ideals and mentality associated with sporting activities so that its members can improve the quality of their physic and psychic wellbeing. Its main target is the University's students' population for whom CUS has a large selection of sporting activities: athletics, baseball and softball, basketball, rugby, hockey, swimming, table tennis and archery. The personnel is made of more than 25 sports technicians and 80 collaborators so that new sports activities are developed according to the students' demand.

The CUS image is not exclusively linked to sports, the association having been involved with several social campaigns, one of the most important being the collaboration with the Italian Association of Organ Donors (A.I.D.O.) and their campaign against drug abuse.

However in the last years a few alarm signals have prompted the association to seek change, a major issue being the significant drop in the number of students that became members. This has prompted the association to conduct an exploratory survey focused on the interviewees' attitudes to sport and on their level of knowledge of CUS and its services. This research was made with the expressed purpose of redefining the design and implementation of the value proposition of the association in order to constantly readapt its goods and services to customers' expectation, while, at the same time, differentiating the Center against its competitors and improving its market share.

## **6. Methodology of research**

This study was made using a representative sample of the Messina University students, who are enrolled in ten different faculties. The selection was based on a probabilistic sample approach, with important characteristics such as gender and enrolment being stratified proportionally. Taking into account the number of students for each faculty and the need to ensure the relevance of the statistical tests, the total sample size was established at 302 students. The sample structure can be seen in the following table. It consisted of the same percentage for male and female sample forshowing both theirperspectives. Student ages varied between 18 and 28 with definition of four groups (with the group from 21 to 24 = 67,2%). Considering residence variable, a majority of the students involving in the study were residents in Messina (40,1%), followed by out-residents of Messina (34,8%) and commuters students (25,2%).

**Table 1.** Descriptive statistic for sample.

		No	%
<b>Gender</b>	Male	151	50
	Female	151	50
<b>Age</b>	18-21	5	1.7
	21-24	203	67.2
	24-28	85	28.1
	Over 28	9	3.0
<b>Residence</b>	In Messina	121	40.1
	Out Messina	105	34.8
	Commuters	76	25.2
<b>Faculties</b>	Economics	34	11,3
	Pharmacy	16	5,3
	Education		
	Sciences	60	19,9
	Law	44	14,6
	Engineering	18	6,0
	Literature	28	9,3
	Medicine	50	16,6
	Maths,		
	Physics	26	8,6
	Political		
	Sciences	18	6,0
	Veterinary		
Medicine	8	2,6	

The survey questionnaire was administrated in two ways: off-line in personal interviews conducted at each faculty before courses; and on-line with the link to the actual survey on the CUS website being sent to personal emails taken from the internal CUS database. The period of the survey was between January and March 2011.

The research instrument had two sections. The first part was designed to gather information regarding sport activities propensity, the level of involvement with sport, the practiced sport activities and preferences, the frequency for practising a sports, and the level of financial effort that they are willing to spend on sport on a monthly basis. The second part was focused on the students' awareness and their level knowledge of CUS and its activities (CUS awareness, CUS location awareness and knowledge, the means of communication with CUS) and also the possible interest in offering service facilities for the students.

### 6.1 Data analysis

From a descriptive point of view, the qualitative variables were presented as absolute frequencies and percentages. In addition, descriptive graphics were generated to better visualize the data. To investigate the level of association among the qualitative variables measured, cross-tabulations were used. The log likelihood ratio test and its p-value were estimated for each couple of categorical variables with reference to their joint distribution (Soliani, 2004). Moreover we performed comparisons between proportions in order to assess the possible differences in gender preferences for both activities and wanted service facilities. The significance level was  $\alpha = 0.05$  and the statistical analysis was performed using SPSS software, version 11.0.

## 7. Discussion of the results

This study was conducted with the intention of analyzing the student's attitudes to sports activities as well as investigating their level of knowledge of CUS and its activities and services. At the same time, it exposes important issues that are needed to be addressed in order to improve the market positioning of the Centre while suggesting possible marketing strategies, oriented to create a high-quality "*sports experience*" memorable and involving (Pine e Gilmore, 2000). This experience can only be achieved through activities and services conceived in a way that is modelled according to the customer's aspiration, needs and current and future wants.

The findings accumulated from the study sample reveal that the University of Messina students show a low participation in sporting activities at a competitive level (8% for female students, 17% for male students). This fact has a negative impact on CUS, as the Centre must select external athletes in order to participate to regional and national university competitions. A possible cause is the fact that the students seem to be more involved in performing physical activities at amateur level for socialization than competition. Another unexpected find is the alarming high percentage of women - 50% as opposed to 29% for men—who declare of not participating in any sports activities or programs. The consequence is that a larger effort is required to both define a complex bundle of products, services and programs to attract the target population. Nevertheless, the investigated sample shows distinctive preferences for some sports activities, highlighting that the students not only have certain ideas and knowledge about these activities before coming to the sport organization, but they also have realistic expectation regarding the sport activities that they are offered by a sports organization. This element suggests the importance of sports activities in ensuring and increasing customer attendance because realistic expectations regarding sport requirements have the most critical role in the final decision to participate. In addition, the activities preferred by students are: swimming (29,1%), fitness (23,2%) volleyball (21,2 %), basket (15,2 %), dance (12,6), athletic (11,6 %), rugby (8,9%), hockey (5,6%). These activities should become the basis around which the CUS offer of products and services must be constructed.

Just as relevant appears to be the information regarding the time of day used by students for the sport activities and the weekly frequency devoted to it. The data show percentages of interest for the afternoon time slot (41 % for women, 50% for men), emphasizing that sport is one of the leisure alternatives for free time. The frequency of 1-2 times a week is the best choice for 33% of women and 36% of men. However, for other 30% of men the rate rises to 4 times a week.

Regarding the availability of spending financial resources by students of the University of Messina, it is useful highlight that the majority of the respondents would be willing to dedicate between 10 and 30 Euros - 55% of women, 51% of men - to the practice of sports activities, while 34% of men and 28% of women would be willing to support a charge of between 31 and 50 Euros and, finally, only 3% of men and 4% of women reveal a willingness to spend over 51 Euros. The data would seem to emphasize the underlying belief that sports activities should be offered by the University, and the organizations connected to it, together with other educational or recreational activities as a bundle of services aimed to obtain a high level of satisfaction of the target segment.

Referring to the level of CUS knowledge, seems useful to report that the 83% of students claim to know of CUS and as many as 50% said to know the CUS location, but only 75 out of 302 (or 25%) know the exact CUS location (Table 2). As shown the by Likelihood Ratio test there is a significant association between CUS Location Awareness and CUS Location Knowledge, with a significant p-value (0,000). The sample involved in the study has come to

known of the sport organization in different ways: brochures about CUS student program, included among the documents that are part of the package of university registration (59% of women and 52% of men); *word of mouth* (48% of women and 50% of men); CUS website and Facebook (17% of women and 19% of men). The data emphasize the importance and potential of word of mouth, which usually comes from spontaneous processes and it is able to influence, positively or negatively, the attitudes and behaviour of those involved.

**Table 2.** Awareness and Knowledge about CUS

CUS Location	Location Knowledge		Total
	NO	YES	
Awareness			
NO	142	9	151
YES	76	75	151
Total	218	84	302

Likelihood Ratio test = 79.543; p=**0.000**

The results obtained from the analysis about CUS activity preferences seem to point out the need for the definition and the relative implementation of new activities, services and sports programs oriented to the University students, ensuring greater choice opportunities among a variety of alternatives which in turn can generate higher levels of satisfaction. In fact, this information permits the clear identification of market segments and their preferences, and it is an important prerequisite for an appropriate and effective strategy of positioning of CUS and its activities – which is an attempt for obtaining a distinctive, credible and valued space in the minds of the target (Kotler, 2000) and meeting the needs and demands of the students. The main goal is to create a value proposition focused and built around the students, giving them a series of exciting reasons to choose the activities and services designed by CUS, rather than those from other sports operators in the Messina area. The sports activities, which were mentioned by sample, are heterogeneous: swimming, fitness, volleyball, basketball, dancing, athletics, judo, table tennis (Table 3). As we can see by the p-values reported in bold (Table 3), there is a significant difference between the proportion of women that would practice volleyball and fitness at CUS, higher than the proportion of men. In contrast, the proportion of men is significantly higher when relative to rugby.

**Table 3.** CUS Activity preferences per gender.

CUS Activities	M	F	p-value
Swimming	8%	11%	0.488
Volleyball	3%	9%	<b>0.046</b>
Basketball	8%	7%	0.911
Fitness	0%	5%	<b>0.016</b>
Rugby	6%	0%	<b>0.007</b>
Tennis	5%	2%	0.269
Baseball	5%	3%	0.553

According to Svensson (2003), services have a significant role in the strategic, tactical and operational management of organizations that are engaged in sport sector. Because of that the CUS market's offering should consider the following characteristics of the service. First, for most of the service processes, customers are not only partners in the exchange, but they also actively participate in the service production and consumption using the physical resources of

the sport organization. This implies that CUS must create a physical setting and other tangible cues in order to quantify the customer's level of quality perception in the intangible service delivery system. Second, sport services, primarily for recreational sport, need a close relationship and a high level of involvement between the sport organization and its customers, which is essential for reaching satisfaction. In practice, services are considered as activities, systems or business transaction in which all elements (tangible or intangible) are mixed for the maximization of the customer satisfaction (Kotler, 2000) and the positive performance of an organization (Gronroos, 1990). On the other hand, the service is can't be standardized and both the customer and organization must make conscious efforts to interact to ensure that the appropriate service is realized (Milne and McDonald, 1999). Also, human performance is the core product and customer experience is a major output (Ko and Pastore, 2004), influenced often by the relatively high interactions among sport consumers and the expectations about the outcome of sport participation. Because the needs of sport consumer are different and difficult to predict, the sport product is much more elusive than most realize. For example, physical fitness, risk-taking, social facilitation, achievement, skill mastery and aesthetics are all potential motivation factors for the sport participant (Milne and McDonald, 1999). That's why it's essential to identify the participant's motivation and their needs and wants because these determine not only the level of service quality, but also the level of customer satisfaction. In this perspective, CUS should focus on different aspects: sport *program quality*, including core service (activities range, quality equipment, organization, program information, start/finish on time, value for money) and secondary service (facilities); *interaction quality* among individuals that can influence the customer's subjective perception of how the service is offered during the service encounter in which the attitude, peculiarity and expertise of personnel are more highlighted (Chelladurai and Chang, 2000); *outcome quality*, referred to physical change (e.g. increased fitness level, performance level), sociability and valence (e.g. benefits as confidence, stress reduction, enjoyment); *physical structure quality*, connected to ambience (scent, music, lighting), design and equipment. It's necessary for CUS to offer better quality services than its competitors in order to differentiate its value proposition from its opponents and meet the expectations of customers.

**Table 4.** CUS facilities preferences per gender.

Facilities	M	F	p-value
Transports	78.6%	80%	0.874
Cinema	79%	61.5	<b>0.001</b>
Stores	70.8%	78.8%	0.142
Book store	75.4	64.2	<b>0.046</b>
Pub/Disco	3.3%	4.6%	0.776

It is interesting to note that there is significant difference between women and men about the facilities preferred. In fact, 79% of men want facilities for going to the cinema and 75,4% for purchasing books, while only 61,5% and respectively 64,2 % of women do so.

Referring to the communication tools used by the students, email and social networks (in particular, Facebook) represent the main choices for an interaction with CUS. That is not surprising since virtual communities offer numerous opportunities to engage, collaborate with, and advance relationships actively in such forums (Dholakia and Bagozzi, 2001 and Bagozzi, 2002), while the technological advancement and social trends make the internet social networks more and more appealing to an increased number of people. The study results show that using the traditional means of communication (e.g. TV advertising) is no longer adequate, and more technological advanced means are needed (Table 5). The internet and its plethora of instruments for social interaction is the next step in creating, developing and



maintaining a direct link with the students, in order to create an effective relationship between CUS and its customers, providing profitability for the former and customer satisfaction for the later. Besides providing interaction through the creation of blogs, forums, virtual communities, opinion surveys, and the possibility of providing real-time feedback from the users, the internet has also the advantage of having a lower cost than other means of communication. Because of this, our suggestion for CUS is to immediately improve the Centre's website to make it more appealing to visitors with more attractive graphics, interactive services and clear and detailed information regarding CUS services and facilities. And though the results of the study show a marked preference to the online means of communication, it's recommendable to maintain also a healthy offline promotional mix, so that the relationship between the sports organization and its customers is stable and durable.

**Table 5.** Technology tools for interaction with CUS.

<b>Interaction Tools</b>	<b>No.</b>	<b>%</b>
Facebook	198	65.6
E-mail	83	27.5
SMS	14	4.6
Twitter	2	0.7
Other	5	1.7
Total	302	100

CUS should focus on relationship marketing, as in developing and maintaining long-term successful exchanges with its target, and going beyond the traditional perspective oriented to short-term behavioural components which is a narrow perspective. In this case relationship marketing could be important because it improves the number and the quality of the interactions between subjects, reduces the complexity of the exchange situation and the amount of resources required for information processes. In addition, the consumers are likely to be more familiar with the products and services offered by the sport organization with positive effects on perceived risk, tension and cognitive dissonance. Consumers should be considered as a lifetime partners, that's why an effort should be made to thoroughly understand the factors that influence the peculiarities and dynamic of the relationship. CUS may be (*"better able to manage relationship attendance, and retention with a better understanding of the underlying dimension of consumer behaviour"*). It must think its relationship with the University students in term of lifecycle, meaning that CUS has to change just like consumer's need and desires evolve in time (consumer indifferent, consumer aware, consumer motivated and consumer centric).

In general customers appear to identify themselves with sports organization or successful team players because this improves the individual's self-esteem, known as basking in reflected glory. Ideally, the sport organization or the team occupies an attractive role in the mind of the sport consumer and the identification, defined as the perceived overlap of one's own self - concept with the identity of these subjects, appears strictly related to the success or failure and consumer satisfaction with these entities. In this case, sports participants are likely to establish and maintain relationship based on role attractiveness, which leads participants to identify with a sport organization. And a relationship, based on identification, will be maintained if it is considered interesting and attractive. That's why CUS must create positive interactions with its participants, developing continually opportunities to provide the desired self-esteem functions, reinforcement or enhancement so that the relationship must be of interest to the individual consumer. In the context of sport marketing, a relationship based on the perceived positive value of the sports organizations that connects with its consumers can become long term and durable. In this perspective, the *internalization*, achieved when an individual's

behaviours is influenced through shared values, should result in the greatest level of relationship initiation, commitment and duration. CUS should try not only to match the values of its target, but also to inspire the belief that the organization, its resources (technical staff, employees) and its market offerings shares those values, focusing on the achievement of credibility and trustworthiness. The marketing efforts should be directed towards demonstrating those values to different targets through integrated and appropriate marketing strategies.

## 8. Conclusions

To survive and obtain competitive advantages it is necessary to design positioning strategies that focus on the consumer and are supported with the *consumer-centric thinking*. Not only the organizational culture must become consumer-centric, but all the elements of the marketing mix – products/services, price, distribution and communication – must be fully aligned with the consumer. In particular, CUS must define its own positioning strategy by creating a bundle of activities and services that are derived from the continuous and direct interaction with its customers. This interaction, facilitated by the use of communication tools proved by the World Wide Web (websites, virtual communities, social networks, email providers ) is fundamental for creating and maintaining marketing relationships that are long term, profitable and which stimulate the sharing a values between CUS as an experience provider and its customers.

The current study is not without its limits. The first limit derives from the size of the sample used for the research as the number of subjects interviewed it's only 1% of the number of those enrolled in the University of Messina. The second limit in proposing a complete repositioning strategy for CUS is the lack on in-depth analysis of the competition for sports organization. The future research should surpass these limits as in extending the study to cover customers and the CUS direct competitors more extensively. Also there's a need to open new avenues of research dedicated to studying customer behaviour and satisfaction so that the positioning strategy is effective.

## References

- Anderson, E. W., Sullivan, M. W. (1993) The Antecedents and Consequences of Customer Satisfaction for Firms, *Marketing Science*, 12 (2):125-142.
- Anderson, E. W., Fornell, C., Lehmann, D. R. (1994) Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. *Journal of Marketing*, 58 (3): 53-66.
- Armstrong, K. L. (2002) Race and sport consumption motivations: A preliminary investigation of a black consumers' sport motivation scale, *Journal of Sport Behavior*, 25(4): 309–330.
- Baker, W. J. (1988) *Sports in the Western world (rev. ed.)*, Urbana, Illinois: University of Illinois Press.
- Blain, N. (2002) Media Culture: Sport as Dispersed Symbolic Activity, *Culture, Sport, Society* 5(3):227-254.
- Brooksbank, R. (1994) The anatomy of marketing positioning strategy, *Marketing Intelligence and Planning*, 12 (4):10-14.

- Chelladurai, P., Chang, K. (2000) Targets and standards of quality in sport services, *Sport Management Review*, 3:1–22.
- Chen, P. (2007), Sport tourists' loyalty: A conceptual model, *Journal of Sport and Tourism*, 11(3/4):1-37.
- Cherubini, S., Canigiani, M. (2000) *Il marketing delle società sportive*, Milano: Guerini e Associati.
- Commission of the European Communities (2007) *White Paper on Sport*, Brussels.
- Crawford, G. (2004) *Consuming sport: Fans sport and culture*, London: Routledge.
- Cronin, J., Taylor, S. (1992) Measuring service quality: a re-examination and extension *Journal of Marketing*, No. 56:55-68.
- Darling, J. (2001) Successful competitive positioning: the key for entry into the European consumer market, *European Business Review*, 13(4): 209-220.
- Devlin, J., Ennew, C., Mirza, M. (1995) Organizational positioning in retail financial services. *Journal of Marketing Management*, 11 (1-3):119-132.
- Dholakia, U. M., Bagozzi, R.P. (2002) Mustering motivation to enact decisions: how decision process characteristics influence goal realization, *Journal of Behavioral Decision Making*, 15:167-188.
- European Council. (2000) *Nice declaration: Declaration on the specific characteristics of sport and its social function in Europe*, Nice: European Council.
- Fink, J. S., Trail, G. S., Anderson, D. F. (2002) An examination of team identification: Which motives are most salient to its existence? *International Sports Journal*, 195–207.
- Foster, G., Greyser, P., Walsh, B. (2006) *The business of sports: Texts and cases on strategy and management*. New York: Thomson.
- Fournier, S., Mick, D. G. (1999) Rediscovering satisfaction, *Journal of Marketing*, n. 63:5-23.
- Funk, D. C., Mahony, D. F., Nakazawa, M., Hirakawa, S. (2001) Development of the sport interest inventory (SII): Implications for measuring unique consumer motives at team sporting events, *International Journal of Sports Marketing and Sponsorship*, 291–312.
- Gronroos, C. (1990), *Service Management and Marketing*, Lexington, MA:Lexington Books
- Hess, R., Stewart, B. (1998) *More than a game*, Melbourne: Melbourne University Press.
- Hess, R., Nicholson, M., Stewart, B., De Moore, G. (2008) *A national game: A history of Australian Rules Football*, Camberwel: Viking Penguin.
- Hinch, T., Higham, J. (2005) Sport, tourism and authenticity, *European Sport Management Quarterly*, 5(3): 243–256.
- Hooley, J., Saunders, J., Piercy, N. (1998) *Marketing Strategy and Competitive Positioning, 2nd ed*, Hemel Hempstead: Prentice Hall.

- Hui, T. K., Wan, D., Ho, A. (2007) Tourists' satisfaction, recommendation and revisiting Singapore. *Tourism Management*, 28, 965-975.
- Humphreys, B. R., Ruseski, J. E. (2008). Estimates of the Size of the Sports Industry in the United States. *IASE/NAASE Working Paper Series*, n. 08-11.
- Ko, Y. J., Pastore, D. L. (2005) A Hierarchical Model of Service Quality in the Recreational Sport Industry, *Sport Marketing Quarterly*, 14 (2): 84-97.
- Kotler, P. (1994) *Marketing Management 8th*. Englewood Cliffs, New Jersey: Prentice Hall.
- Kotler, P. (2000) *Marketing Management, Millenium Edition*, Upper Saddle River, NJ: Prentice Hall.
- Levitt, T. (1975) Marketing Myopia. *Harvard Business Review*, September-October .
- Mangan, J. A., Nauright, J. (2000) *Sport in Australasian society: Past and present*. London: F Cass.
- Matzler, K., Füller, J., Faullant, R. (2007) Customer satisfaction and loyalty to Alpine ski resorts: the moderating effect of lifestyle, spending and customers' skiing skills. *International Journal of Tourism Research*, 9: 409-421.
- Milne, G. R., McDonald, M. A. (1999) *Sport marketing: Managing the exchange process*. Sudbury, MA: Jones and Bartlett Publishers.
- Nakata, C., Sivakumar, K. (1996) National culture and new product development: an integrative review. *Journal of Marketing*, 60(1): 61-72.
- Oliver, R. (1997) *Satisfaction: A behavioral perspective on the consumer*, New-York: McGraw-Hill.
- Pine II B. J., Gilmore J. H. (2000) *L'economia delle esperienze*, Milano: Etas.
- Porter, M. E. (1996) What is strategy? *Harvard Business Review*, November-December , 61-78.
- Ries, A., Trout, J. (1986) *Positioning: The battle for your mind*. London: McGraw-Hill.
- Slack, T. (1998) Is there anything unique about sport? . *Journal for Sport Management*, 5(2): 21-29.
- Smith, A. C., Stewart, B. (2010) The special features of sport: A critical revisit. *Sport Management Review* 13:1-13.
- Soliani, L. (2004) *Manuale di Statistica per la ricerca e la professione. Statistica univariata e bivariata parametrica e non-parametrica nelle discipline ambientali e biologiche*, Parma: Uninova.
- Svensson, G., (2003) A Generic Conceptual Framework of Interactive Service Quality, *Managing Service Quality*, 13(4): 267-275.
- Trout, J., Rivkin, S. (2010) *Repositioning. Marketing in an era of competition, change and crisis*, New York, NY: McGraw-Hill.

Trout, J., Rivkin, S. (1996) *The New Positioning*. New York, NY.: McGraw-Hill.

Wakefield, K. L., Blodgett, J. G. (1994) The importance of servicescapes in leisure service settings. *Journal of Services Marketing*, 8(3): 66-76.

Westerbeek, H., Shilbury, D. (1999). Increasing the Focus on “Place” in the Marketing Mix for Facility Dependent Sport Services. *Sport Management Review*, 2:1–23.

Zhang, J. L., Pease, D. G., Lam, E. T., Bellerive, L. M., Pham, U. L., Williamson, D. P., et al. (2001) Sociomotivational factors effecting spectator attendance at Minor League Hockey games. *Sport Marketing Quarterly*, 10(1): 43–56.

# Integrated Management Systems - testing a model for integration

Sten Abrahamsson – MSc, Lecturer, Gotland University – [sten.abrahamsson@hgo.se](mailto:sten.abrahamsson@hgo.se)

Jonas Hansson – PhD, Ass. Professor, University West – [jonas.hansson@hv.se](mailto:jonas.hansson@hv.se)

Raine Isaksson – PhD, Senior Lecturer, Gotland University - [raine.isaksson@hgo.se](mailto:raine.isaksson@hgo.se)

## Abstract

Management systems are widely used for creating order, minimising risks and for assuring performance. Management systems are in many occasions integrated since this has been found to be beneficial. In this paper a model for a fully integrated management system (IMS) based on the three axes of level, extent and scope of integration is tested for relevance. The studied system permits the integration of all relevant process dimensions. The research is only in a pilot stage, but the initial results are promising and indicate that there are advantages in using the process view as a base for identifying critical aspects to be managed. A review of the current situation for system integration is studied and the model is subjected to some tests using Sweden as a case. The background study shows that system integration still is limited, especially when comparing with a fully integrated IMS. The feedback from the organisations interviewed is positive and supports continued work with development of the model.

## Introduction

Effective management requires a good management system. Management systems, e.g. those used for quality management and environmental management, have been accused of being bureaucratic and paper driven. In order to comply with the requirements, each management system demands vast extent of documentation and written procedures. Previous research has pointed out the challenge of handling several separate management systems and their alignment with the organization's strategy. Integrated Management Systems (IMS) have been presented as a solution to decrease these negative consequences. In previous research, a framework for a fully integrated management system based on managing all stakeholder needs was presented (Abrahamsson & al., 2010). The framework describes management systems using the three axes of level, extent and scope, see Figure 1.

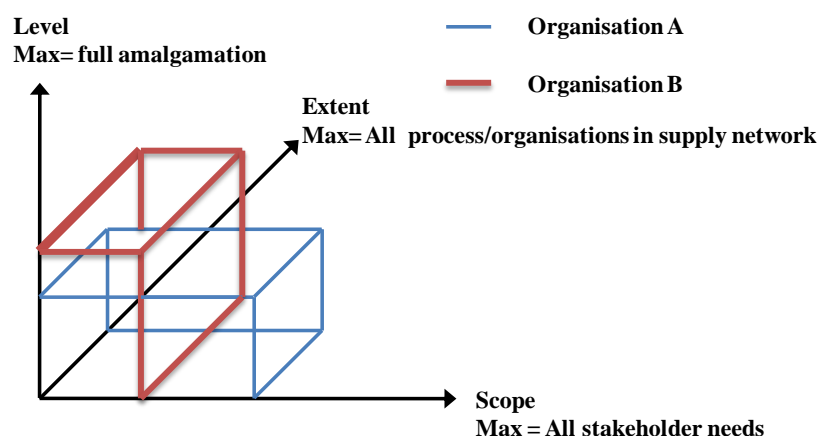


Figure 1. Conceptual presentation of and IMS (Abrahamsson & al., 2010)

The theoretical framework needs to be validated by empirical findings. One important question is whether the three chosen axes are relevant and if they are enough for capturing the main elements in a fully integrated management system. Another important question is how to

quantify the scales for level, extent and scope in such a way that these levels can distinguish between systems of different maturity while being easy enough to understand for quick deployment and assessment. Additionally we review the general situation of management system integration to portray the general interest for integration and how far this work has been carried out.

### **Methodology**

The relevance of the axes in Figure 1 is checked by interviewing companies working with integrated management systems. The companies are randomly selected from a database containing Swedish certified organisations. Sweden is believed to be a typical example for European Union countries with respect to the number of certificates (Sampaio, et al. 2009) and as such a relatively good example for developed countries. The model is presented to interviewees for a quick comment on relevance. Based on literature studies and induction, scales for the three axes in Figure 1 are proposed. Case-studies are used to test and develop the framework in Figure 1 and the proposed scales. Extent, scope and level are tested using a supply network approach looking at education from initial needs to use of knowledge. A process is defined and a virtual process walk through is carried out. To simplify this we choose a known educational product – a course in quality management – and analyse it from input to output identifying the aspects that would need to be managed. The identified aspects are then related to scope and extent in the framework and the proposed scales. Additionally the scale for level is discussed and criteria are proposed. The purpose of this is testing model relevance and the usability of the scales. Another case study is carried out looking at a company that is certified according to quality management, environmental management and work environment. The company is a medium sized organisation and operates within the automotive sector. The case is chosen in order to outline integration strategies and reasons for choosing integration. The general level of management system integration is reviewed based on literature studies and with using Sweden as an example.

### **Integrating management systems**

There are several advantages with integrated management systems. Increased efficiency and the possibility to develop management systems better matching stakeholder interests are some reasons for integrating, see e.g. Miles & Russel (1997), Wilkinson & Dale (1999), Lundh (2002), Ofori et al. (2002), Berg et al. (2003) Karapetrovic (2003), Zutshi & Sohal (2005) and Abrahamsson & al. (2010). There are also studies indicating that integration is becoming more common than stand-alone systems, see e.g. Bernado et al. (2009) and Karapetrovic & Casadesús (2009).

In spite of all the apparent advantages it still seems that system integration has a long way to go. Commonly only a few ISO-based management systems are integrated. Abrahamsson & al (2010) point out that a fully developed IMS should have a *scope* that includes all relevant stakeholder needs. The *level* of system integration should be high, close to amalgamation. The *extent* should cover the entire supply chain from first supplier to last customer. The more specific issues on level, extent and scope are reviewed below in more detail within the context of proposing scales.

### **Defining scales for level, extent and scope of integration**

#### **Level of integration**

Bernado et al. (2009) summarise different levels of integration that have been described by several authors. We propose to extend the level scale to make it more descriptive. We propose a 0 for the level of no integration, see Table 1. The number of integration levels is from two

Karapetrovic (2003) to four in Wilkinson and Dale (1999). The description that are closest to our suggestion is Karapetrovic (2002) that goes from 1) Integrating documentation through 2) aligning core processes, objectives and resources to 3) Creating an “all-in-one system”. We have from our experience from companies and non-profit organisations seen that it is a rather long step from level one to two and we believe that there are advantages in a more detailed scale. These could be such as a better description of the level, which should be beneficial in both assessing and improving performance. We therefore suggest six levels of integration as presented in Table I.

Table I. Proposed maturity scale for the level of integration. Note that the previous level must be included in the next higher level.

Maturity level	Description	Comments
0	No integration, x different separate systems.	
1	A common system for documentation.	Karapetrovic (2002)
2	Common audits internally and externally.	
3	Common processes, systems for risk analyses, systems for non conformances, etc.	
4	Common processes for managing objectives, implementation and follow up.	Karapetrovic (2002)
5	Business plan and organisational management system are one. Full amalgamation.	Karapetrovic (2002)

### ***Extent of integration***

The extent defines the proportion of all processes and all parts of the organisation included. This could be graded with % from 0 to 100 with suitable increments. Ideally this would be done based on a process chart of the entire organisation or supply chain. However, since most organisations are defined by their functions an alternative way of looking at the extent would be to look at the departments that have been integrated.

Table II. Proposed maturity scale for the extent of integration.

Maturity level	Description	Comments
0	No IMS in any process	0 %
1	Proportion of relevant processes in the chosen system	20 %
2		40 %
3		60 %
4		80 %
5	All processes and all organisation of the studied system (supply network)	100% The limits of the studied system can vary. On the highest level all organisations and all processes in the supply network are included

Relevant processes are defined as per the Pareto-principle identifying the 20% of the system processes that correspond to 80% of the aspects. This is done because we estimate that few or no organisations will define all of their processes.

### ***Scope of integration – process dimensions included***

The scope could be set in relation to a fixed set of dimensions (quality, environment, occupational health and safety, economy, information security, etc.) or set by amount of management systems included out of those relevant for the process. Relevance of an aspect



would have to be defined by management taking into consideration the stakeholders involved. When there are relevant aspects that need to be managed they should be part of the integrated management system. A proposal for maturity of scope is presented in Table III.

Table III. Proposed maturity scale for the scope of integration.

Maturity level	Description	Comments
0	The management of the organisation is not following or guided by any standard	
1	No IMS but the organisation is following or guided by a standard	E.g. Quality or Environment
2	Integration of the processes has started and around 30 % of the identified risk are managed in an IMS	
3	A broad perspective on all risks is taken and these are identified. More than 70% of the identified risks are managed in an IMS	E.g. Quality, Environment and Health and safety
4	More than 90% of the identified risks are managed in an IMS	
5	All dimensions with relevant stakeholder needs are managed in an IMS	

A common structure of defining management system integration is to include quality, environment and occupational health and safety and some common ISO standards. In Table IV an example of such structure is presented based on Swedish empirical data.

### ***Results from Sweden on the extent of management system integration***

Information about existing certificates in Sweden has been collected. The web page [www.certifiering.nu](http://www.certifiering.nu) was used as a source. The web page belongs to a cooperation within the organization SWETIC - Swedish Association for Testing, Inspection and Certification. This is a trade association for companies that are accredited within testing, inspection and certification. SWETIC provides a quality assured search of companies that have received one or more certifications. All members are accredited by SWEDAC (Swedish Board for Accreditation and Conformity Assessment) or by an equivalent foreign body. The purpose of SWETIC is to provide a forum for member companies to discuss industry-wide issues. SWETIC is also the industry's representative in the community and responds as such on referrals from agencies on new laws, etc. The data does not include all certificates in Sweden, but all of the big certification companies are cooperating with SWETIC. Of the companies accredited by the Swedish accreditation body SWEDAC 8 of 10 are reporting to the data base and none of the big companies is missing. We have made the interpretation that the database is representative for the situation of management system certification in Sweden.

Results in Table IV show that there are three dominating areas for certification in Sweden, Quality, Environment and Occupational Safety and Health. There are a several companies that have more than one certificate. Large proportions (66-69%) have both quality and environment. Around 13% of certified companies for quality and environment are also having a management system for occupational health and safety. The information security standard has not had a significant impact on integrated systems. Energy management systems are included to a small extent to the number of integrated management systems (may be more common in some type of industry).

We estimate that about 75% of those companies certified in Sweden are included in Table IV. This would indicate almost 7000 ISO 9001 certificates.

Table IV. Number of certificates in Sweden collected from the database [www.certifiering.nu](http://www.certifiering.nu) for different selection of standards.

<b>Standard</b>														
ISO 9001 Quality management systems – Requirements	x								x	x	x	x	x	x
ISO 14001 Environmental management systems -- Requirements with guidance for use		x							x	x	x	x	x	x
EMAS			x											
OHSAS 18001 Occupational health and safety management systems – Requirements				x						x		x		x
AFS 2001:1 Systematic work environment management					x						x	x		
ISO 27001 Information security management systems – Requirements						x							x	x
SS62 77 50 Energy management systems – Specification							x							
EN 16001 Energy management systems – Specification								x						
<b>Number</b>	5104	4912	47	381	252	30	92	27	3376	318	197	85	6	4

The total number of companies in Sweden is more than 900 000, but if only those with 10 or more employees are included then the number is 35000 (Ekonomifakta, 2010). This means that out of the group of companies with more than 10 employees only about 20% would have an ISO 9001 certificate. There probably are companies with quality management systems and even those with systems that are not certified. Sampaio & al (2009) use the indicators of ISO 9001 certificates per 1000 persons and ISO 9001 certificates per companies above 10 employees. These two parameters seem to have a positive linear correlation with Sweden placed well on the line drawn, when using data from 22 EU countries. Based on the graph the figures for Sweden are 0.55 ISO 9001 certificates per 1000 persons and 17% of companies with 10 or more employees having an ISO 9001 certificate. With a population of 9.4 million in the end of 2010 (SCB, 2011) the number of certificates based on Sampaio & al. (2009) would be about 5000. This supports the assumption of our estimated figure and indicates that the maturity in Sweden for integrated management systems still is rather low. Sweden is in the sample of 22 EU-countries close to the middle with eight countries scoring higher on the per capita indicator. This means that our results could also serve as an indication for the situation in the EU-countries.

### ***Relevance of proposed framework***

From the selected database we chose companies with quality, environmental and occupational health and safety management systems (318 companies for ISO 9001, ISO 14001 and OHSAS 18001 + 197 companies for ISO 9001, ISO 14001 and AFS 2001:1). From the selection we chose every 25<sup>th</sup> company for an interview. This gave us 20 companies to contact. We reached 18 of them and conducted a phone interview describing our model and asking what they thought about the proposed framework and the three axes of scope, level and extent. Additionally we asked them to grade themselves using the proposed structure.

We also included an open question about further development of their management system, how it was developed and the most important parts in the system.

The model was perceived as easy to understand and 17 of 18 had no difficulty to define the organization's position on the different dimensional scales. The graduation was perceived as relevant. Results from the self assessment carried out by the interviewees in Table V.

Table V. Result from self-estimation of level of integration made by 18 interviewed companies

	Level 0-5	Extent %	Scope (Number of standards)
Average	3,8	94	3
Max	5	100	4
Min	2	80	3

Grading of the level has a weakness relating to the difficulty of deciding which parts of the organization that should be considered. The level can vary within the organization. Depending on how we want to use the model we can use the lowest value or mean and we could also indicate a range.

A remark made on the level graduation was that there are external auditors who cannot handle all areas (audit team should be able to do this). Another complication with assessing the level could be that several models for risk analysis might be needed giving the impression that systems have not been integrated. However, it could be that there are functional requirements that specify a certain type of risk analysis. The company that had some difficulties to see the usefulness of the model is a large public organization that certifies only when there is external demand for this. Systems audits at the corporate level were not conducted.

The reason for that we in this interview scored relatively high on the scales may be that we in our interview sample as entry criteria had a certification in three areas. It can be assumed that these companies have come a long way in their integration, which could explain why the scope and level is assessed as relatively high. Another explanation could be that companies still see integration based on existing areas of ISO certification and not based on all risks that need to be managed in different dimensions. The interviews were relatively short and the interviewees only had the numeric scale as a base not all the details found in Tables I, II and III. Here, further research testing the scales is needed. However, we have found support for the relevance of using the proposed three axes of level, extent and scope. The attempt to visualize the integration was positive according to our interviews. The need for this is for both top management and for employees and other stakeholders.

The summarised findings from the interviews were:

- The model can easily be understood by those interviewed
- Graduations are perceived as realistic
- Interviewees could relatively easy place their company using the model
- The visualization was seen as positive
- The companies interviewed were relatively high on the scale of self-estimation.

In Figures 2 and 3 we have illustrated the interview results.

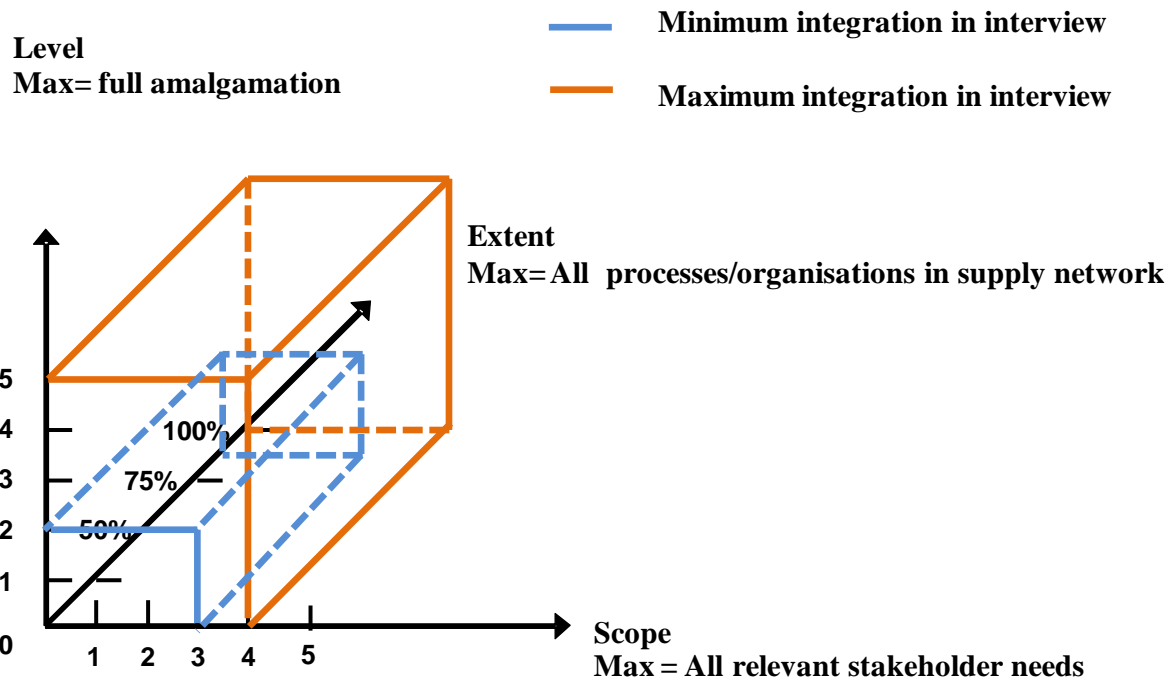


Figure 2. The maximum (red) and minimum score (blue dotted line) we had from the interview of 18 companies.

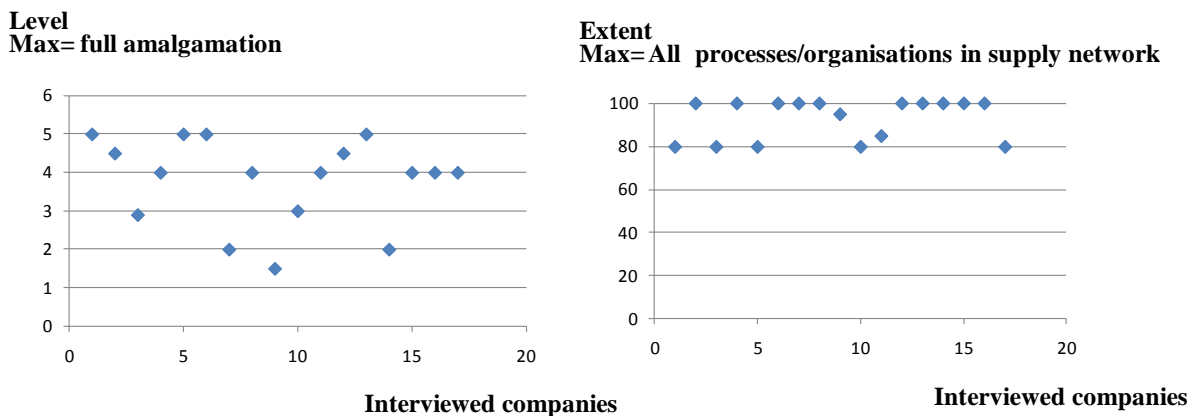


Figure 3. The result of interviewee self-estimation of level and extent from the interview of 18 companies.

### **IMS for quality management education**

In this section the relevance of the framework and the proposed scales are tested by applying them to an educational process. The choice of the process and the system is based on the familiarity that the authors have of it. Since the proposed structure and measurements should be relevant for any system a random choice of value adding process should be acceptable. The supply network studied is a sub-system of the educational supply network. The highest level of this network is global education which then can be broken down to a national, regional and to a local level. At every level there are parallel educational processes where we have chosen one which is: “To carry out university level quality management courses in Sweden”. We have chosen a course as being a simpler version of a program for the first test of the IMS. The interfaces we have chosen are defined by the input, which is: “need for quality management education” and the output which is: “level of use of quality management learnt”. The process

is seen from the perspective of the provider of education since the purpose is to identify elements for an IMS. In Table VI we have described the proposed sub-processes of the educational process. The process is also described in Figure 4.

Table VI. Process Table with sub-processes describing the process to provide quality management education starting with a need and ending with the acquired education being used.

Process step	Input	Output	Stakeholders	Comment
Marketing the university and quality management	Need for quality education	Interest in some course or courses of the university studied	Student, University Management	The output could be seen as a potential student that has chosen the studied university
Selling a course	Interest for some quality management courses	Application for a particular course	University Management	The output is a course application
Approval process	Application	Decision on acceptance	University Management, Student, Lecturer	
Education	Accepted students with an initial level of knowledge	Students with acquired QM-knowledge	Student, lecturer, management, State (use of funds, type of education)	Those leaving can be graduated or drop-offs with level of graduation being an important Key Performance Indicator
Using the knowledge	Student with acquired level of quality management	Level of use of quality management learnt	Student, Employer, state (employability)	Usability of education as what has been taught and what has been retained of that.

Based on the identified stakeholders their needs can be exemplified, which then gives an idea of the scope of the management system needed (which dimensions are involved). The scope is needed to assess both level of integration and extent of use. Identification of the scope could be done by interviewing different stakeholders on the critical parameters they need to control in the process. Here, we base this part on our understanding of the educational process. In Table VII some examples of stakeholder needs that could need management in the studied course process.

The presentation in Table VII indicates that quality and economic indicators are important. In addition to the process dimensions identified in Table VII there could be others. For lecturers and for students there could be occupational health and safety aspects such as stress and social aspects and gender equality as well as other diversity issues. Concerning the running of the university premises and managing technology used there are energy and carbon emissions issues. One important process is travel of personnel and students. The course content and to the extent it takes up sustainable development could be an aspect. It could be argued that there are synergies between quality management and sustainable development (Isaksson, 2006). This means that we in the start would review all dimensions as proposed in Abrahamsson & al. (2010). See Table VIII

Table VII. Proposed indicators required for identified stakeholders in the process of quality education. GAP refers to measuring service quality using the GAP-model (Zeithaml & al, 1990).

Process step	Student	Lecturer	University Management	State	Employer
Marketing the university and quality management	Can my needs be fulfilled with available resources?				
Selling a course	Is this the right thing (level and content)?				
Approval process	Time for reply	Right number of students; Level of competence	Budgeted number		
Education	Service quality (GAP) – received service compared to expectations	Level of work needed, Throughput; Student satisfaction	Budgeted time for work; Throughput; Student satisfaction	Throughput; Student satisfaction	
Using the knowledge	Usability as final student satisfaction; Competence value per resources used	Relevance of Course Plan content		Employability	Competence received compared to expectations (GAP)

Results from Table VII indicate that there should be several quality indicators that need to be monitored with indicators being corresponding both to the user based and the value based perspective (Garvin, 1988). A general comment is that there seem to be many indicators that should be managed within the scope of quality and economy that currently are not managed.

Table VIII. Process dimensions to be considered in quality management. Dimensions are from Abrahamsson & al. (2010) and compared with identified stakeholders. Relevance for risk management is assessed with a scale from 1-5 (as average of the author assessment and with 5 as most important).

Stakeholder	Account-ability	Ethical behavior	Transpa-rency	Econo-my	Health and Safety	Quality	Envi-ronment	Job security
Student	2	2	3	5	2	5	2	
Lecturer	3	3	2	3	4	3	3	5
Univ. Manag.	3	3	2	5	4	3	2	4
State	5	1	4	4	2	3	2	
Employer						5		
Nature							4	
<b>Total</b>	<b>13</b>	<b>9</b>	<b>11</b>	<b>17</b>	<b>12</b>	<b>19</b>	<b>13</b>	<b>9</b>

The presentation in Table VIII should be primarily seen as a test of how to prepare a reference for the scale of IMS scope. The assessment is dynamic and the proposal in Table VIII reflects the current situation in a Swedish University. For example for the student the ethical behaviour of the university is normally not a problem. Ethical behaviour is important, but within the current structure it is not a priority risk that needs to be managed. Nature has been added as a stakeholder. Normally there are advocates in the form of NGOs and legislation, but even in their absence the effect of education should be considered. The direct effects from carrying out quality management education are at the level of 1, but the indirect effects are assessed as 4. The reason is that the content of the education which deals with improving value adding to customers also could be used to improve environmental performance and to work with sustainable development. In Sweden it is a legally defined requirement that universities should work with sustainable development. Looking at the total sum, Quality and Economy emerge as the most important dimensions. Which dimensions to include should be discussed with stakeholders. Our proposal is to include any dimension that has at least one level 3 stakeholder, see Table VIII. This means that in our example the benchmark scope for Table III includes all eight dimensions in Table VIII. The level assessment could be based on to what extent the eight dimensions are integrated into the management system using Table I.

The reference for extent could be defined by identifying key processes in the system studied. The main process and its sub-processes are described in Table VII. However, to enable these processes to work, management and support processes are needed. The system studied could be described using a process based system model (Isaksson, 2006). In Figure 4 a proposed description of Quality Management education as described in Table VI with addition of generic management and support processes. Processes in Figure 4 should only be seen as examples. Relevant processes need to be identified by the stakeholders concerned.

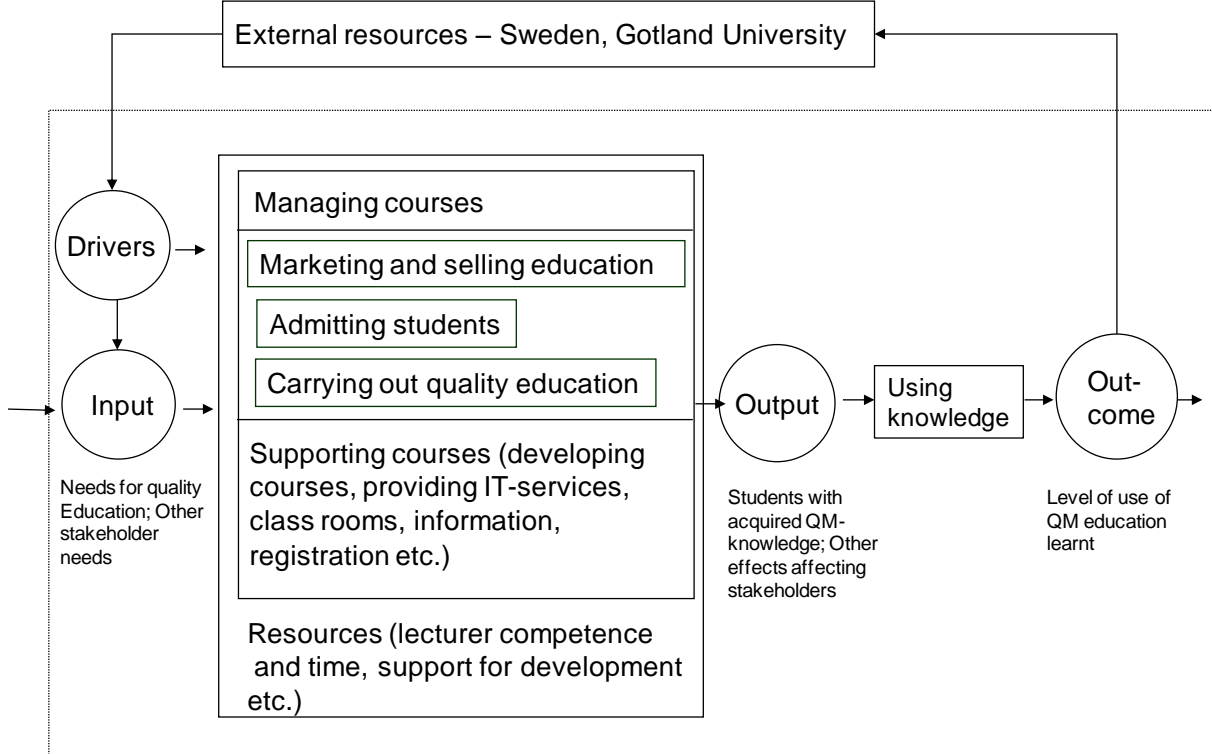


Figure 4. A process based system model describing the process of carrying out Quality Management (QM) education in Gotland University, adapted from Isaksson (2006).

With identification of the key processes in an organisation, which could be management, main or support processes, we can define the reference for the benchmark of the scale for “Extent”. The example highlights the need of having a reasonably high level of process maturity to be able to define extent. Similarly the scope defined by process definitions requires an agreement within the organisation of which the different process dimensions are.

After identification of the main processes and the dimensions relevant for these comes the question of how to measure performance. To test if this can be done we have in Table IX prepared a matrix with stakeholders and dimensions

Table IX. Stakeholders and process dimensions with proposed output and outcome (underlined) indicators as examples.

Stakeholder	Account-ability	Ethical behaviour	Transpa-rency	Economy	Health and Safety	Quality	Environ-ment	Job secu-rity
Student			Clarity of exam results	<u>Employa-bility/h and and money used</u>		Serv.Q Exam grades <u>Employ-ability</u>		
Lecturer		Respect from students and employ-ees		Salary/h worked	<u>Level of stress</u>	Work predicta-bility		<u>Securi-ty</u>
Univers. Manag.	Exam rights Econo-mic surplus			ECTS/emp-loyee h Economic contribution		<u>Universi-ty ranking</u>	Carbon emissions	<u>Flexi-bility</u>
State				Employment and taxes paid		Educa-tional quality	Work with ISO 14001	
Employer				Cost of finding and recruiting competence		Student compe-tence		
Nature							Carbon emissions Level of under-standing Sustaina-bility	

Identifying stakeholder needs properly requires data gathering from identified stakeholders. The proposed indicators in Table IX were not very easy to identify and the relevance is not yet tested. Some of the proposed dimensions from Abrahamsson & al. (2010) might be redundant and could in that case be excluded. Accountability was difficult to define in practical terms, but might be relevant when further studied. Job security could be included as a quality indicator for lecturers and as an economic indicator for University Management. It is when the process dimensions are taken down to the indicator level where it becomes possible



to check the relevance of a proposed dimension. Here, further research is needed and possibly the number of dimensions defining the reference for scope could be reduced.

### ***IMS in a medium sized automotive supplier***

This case has been included in order to outline integration strategies and reasons for the chosen integration model. The empirical material was collected by interviewing the quality management manager.

The organisation is certified according to ISO 9001 and ISO 14001. The organisation also has an Occupational Health and Safety management system. According to the manager the 14001 system is integrated with the Occupational Health and Safety management system since it makes more sense in their context. The 9001 and 14001 management systems are integrated to the extent that some of the core documentation is aligned along with core processes in the purchasing department, but except from this the systems could be considered as separately handled.

The reasons for not fully integrating all systems are partly due to lack of competence and experience. For example most of the internal auditors are not sufficiently trained and experienced to make an audit that covers both quality management and environmental management. The manager also stressed the need of further elucidation of the prerequisites of how to achieve successful integration. Aspects that were pointed out as essential were the maturity level of the organisation and involved staff, along with evident benefits of an integration effort.

### ***Conclusions***

The level of management system integration in Sweden still seems to be low. In Sweden about 20% of companies with more than ten employees have an ISO 9001 certificate. Out of the 20% only about 13% have an IMS with the three systems Quality, Environment and Occupational Health and Safety. This means that less than 3% of the total population of companies with 10 employees or more have an IMS with the basic scope relevant for most companies. Since the use of an IMS has been found to be beneficial there still is an important non realised improvement potential in further integration. One of the issues that could support integration work is to better clarify the benefits of integration.

The main conclusion for the studied model describing an IMS with the axes Level, Extent and Scope is that these seem to be relevant and that they could be used. The model has been simple to describe for the interviewed companies and organisation and it has been positively received particularly because of the visualisation it provides. The grading of Level seems to be relevant based on the interviews. The definition of Extent and Scope was handled well by the interviewees. However, when studying a process based on the significant aspects from a stakeholder risk analyses perspective the issue of defining Scope and Extent becomes complex. Still, the indication is that the Extent and Scope are relevant. The work should start with identifying the magnitude of Scope – how many different process dimensions to consider? Here, the proposed criterion is to include all those dimensions where there is a stakeholder with a significant aspect. This gives the number of process dimensions to include. With the identified Scope for the system its processes can be studied using a process based system model to identify the Extent that processes have included the identified dimensions. The maximum level of the Extent for a process is defined as including all the dimensions identified for the Scope. For defining the system reference of 100% one option could be to choose an average of the most relevant processes. Relevance could be defined relatively using

the Pareto principle. This would limit the number of processes to be assessed for Extent and for Scope and make it more manageable.

### **Discussion**

Our research is in a preliminary stage and has mainly served to provide a number of working hypotheses for how fully integrated management system could be visualised when studying organisations and supply chains as process based systems. Further research is required in further defining the scales for Level, Extent and Scope with focus on Scope and Extent.

The preliminary results for Sweden could possibly be generalised for the European Union. Sweden is close to the median for the European Union countries based on the number of ISO 9001 certificates (Sampaio et al., 2011). To the extent that integration follows the number of certificates the low level of integration found in Sweden with less than 3% of companies having an IMS for Quality, Environment and Occupational Health and Safety could apply for the entire European Union. One possible reason for the low level of integration mentioned is that the benefits are not obvious.

### **References**

- Abrahamsson, S., Hansson, J. and Isaksson, R. (2010). "Integrated Management Systems – advantages, problems and possibilities", *13th Toulon-Verona Conference University of Coimbra, 2nd – 4th September 2010*.
- Berg, H. P., Beckmerhagen, I. A., Karapetrovic, S. V. and Willborn, W. O. (2003). "Integration of management systems. Focus on safety in the nuclear industry." *International Journal of Quality & Reliability Management* 20(2): 210-228.
- Bernardo, M., Casadesus, M., Karapetrovic, S. & Heras, I. (2009). "How integrated are environmental, quality and other standardized management systems? An empirical study" *Journal of Cleaner Production* 17(8): 742–750
- Certifiering (2011). [www.certifiering.nu](http://www.certifiering.nu) (in Swedish) – downloaded June 21, 2011.
- Ekonomifakta (2010). *Företagens storlek* (in Swedish).  
<http://www.ekonomifakta.se/sv/Fakta/Foretagande/Naringslivet/Naringslivets-struktur/> - downloaded July 11, 2011.
- Garvin, D.A. (1988). *Managing Quality*. The Free Press, New York.
- Isaksson, R. (2006). Total Quality Management for Sustainable Development – process based system models. *Business Process Management Journal*, 12 (5), 632-645.
- Karapetrovic, S. (2002) Strategies for the integration of management system and standards. *The TQM Magazine*, 14(1): 61-67.
- Karapetrovic, S. (2003). "Musings on integrated management systems." *Measuring Business Excellence* 7(1): 4-13.
- Karapetrovic, S. & Casadesús, M. (2009). Implementing environmental with other standardized management systems: Scope, sequence, time and integration. *Journal of Cleaner Production*, 17, 533-540.

Lundh, J. (2002). *Trippelintegrerade ledningssystem. Samordning av ledningssystem för kvalitet, arbetsmiljö och miljö*. Master thesis. Luleå, Sweden, Luleå University of Technology (In Swedish).

Miles, M. P. and Russel, G. R. (1997). "ISO 14000 Total Quality Environmental Management. The integration of environmental marketing, Total Quality Management, and corporate environmental policy." *Journal of Quality Management* 2(1): 151-168.

Sampaio, P, Saraiva, P. and Rodrigues, A.M. (2009). A Statistical Analysis of ISO 9000-Related Data for European Union Ultra-Peripheral and Portuguese Regions. *Quality Management Journal*, 16(2), 45-58.

Ofori, G., Gang, G. and Briffett, C. (2002). "Implementing environmental management systems in construction: lessons from quality systems." *Building and Environment* 37(12): 1397-1407.

SCB (2011). SCB, Befolkningsstatistik (In Swedish).

[http://www.scb.se/Pages/TableAndChart\\_\\_\\_\\_262459.aspx](http://www.scb.se/Pages/TableAndChart____262459.aspx) - downloaded July 12, 2011.

Wilkinson, G. and Dale, B. G. (1999). "Integrated management systems: an examination of the concept and theory." *The TQM Magazine* 11(2): 95-104.

Wilkinson, G. & Dale, B.G. (2001). Integrated management system: A Model based on a total quality approach. *Managing Service Quality* 11(5): 318-330.

Zeithaml, V.A., Parasuraman and A., Berry, L.L. (1990). *Delivering Quality Service - Balancing Customer Perceptions and Expectations*. The Free Press, New York.

Zutshi, A. & Sohal, A.S. (2005). Integrated management system – The experience of three Australian organisations. *Journal of Manufacturing Technology Management*, 16(2): 211-232.

## Productivity of travel agencies: a comparative analysis

**Alberto Álvarez-Suárez**, Technical Unit for Quality Assessment, University of Oviedo. Email: [suarez@uniovi.es](mailto:suarez@uniovi.es). Postal address: C./ Principado, 3, Entreplanta 33007. Oviedo, Spain.

**Ramón Fuentes**, Faculty of Economics. Department of Applied Economic Research. University of Alicante. Email: [rfuentes@ua.es](mailto:rfuentes@ua.es) Telephone and fax number: +34 965 90 97 11. Postal address: Facultad de Económicas. Universidad de Alicante. Ap. Correos 99. E-03080. Spain.

**Abstract:** This study analyses the productivity of a group of travel agencies in the town of Alicante during the period 2004-2007 using two different techniques (Luenberger and Malmquist indices) in order to compare results, draw conclusions and provide advice for improving the management of the agencies. Finally, it compares the results obtained with those of previous studies carried out in the same field with the aim of establishing conclusions with respect to the different methods of analysis used and their potential as analytical instruments within the sector.

**Purpose:** To provide lines of action based on the results aimed at improving the future levels of productivity of the travel agencies in Alicante.

**Methodology:** Estimates of input-oriented Malmquist Productivity Indices and the values of their components are calculated. Furthermore, a non-oriented Luenberger productivity index is calculated to compare the results.

**Originality:** Although other studies have been previously carried out using both Malmquist and Luenberger productivity indexes to analyse productivity decision making units, this is the first time these techniques have been applied simultaneously to travel agencies.

**Limitations:** The impossibility of increasing the amount of data for carrying out the study, given the scarcity of statistical sources available and the reticence of the travel agencies to provide us with more information.

**Keywords:** Travel agencies, productivity, Malmquist Index, Data Envelopment Analysis, DEA, Luenberger productivity index.

### 1. Introduction

The rising levels of competition in the economy over the last few years has led to a growing interest in the assessment of efficiency in all economic sectors. The service sector is no exception, despite its unique characteristics such as intangibility or the heterogeneity of its outputs that make the assessment of its efficiency even more difficult (McLaughlin & Coffey, 1990). Given that travel agencies operate within the service sector, it is in this context that the study is addressed.

However, the decision to examine the economic behaviour of these units was based on both the fact that they operate within the tourism sector (which is of great importance in a country such as Spain where 11% of GDP is generated by the tourism industry) and on the large increase in the absolute and relative number of travel agencies in the city of Alicante (between 2000 and 2007 they grew by 205.26% as opposed to 67.41% in Spain as a whole, and the proportion of agencies per inhabitant stood at 0.05% per inhabitant

while the national average was 0.0022% – County Council of Alicante, 2009; National Statistics Institute, 2009). This gave rise to the need to determine, their relative level of productivity as well as the kind of measures that could be taken to increase this level.

## 2. Literature Review

To date, there are very few studies that have been published evaluating the productivity of travel agencies. In fact, there are only eleven publications that analyse this issue. A detailed review of part of them may be found in Fuentes (2011), although other studies provide excellent information to this respect (Sigala, Jones, Lockwood, & Airey, 2005; Wöber, 2006; Barros & Dieke, 2007; Barros, Peypoch, & Solonandrasana, 2009; Botti, Briec, Peypoch, & Solonandrasana, 2010).

Thus, initially, the main aim of this section is to update the information of other previous studies with the new references that have been published so far.

One of them is the study written by Barros, Botti, and Peypoch (2009) in which the authors researched travel agencies in Portugal during the period 2000–2004 by applying the Luenberger productivity indicator which takes into account variations of both inputs and outputs simultaneously. Moreover, it evaluates the technical efficiency change and the technological change (in a similar way to the Malmquist index). The inputs used for the study were wages, capital, total operational costs excluding wages, and the book value of premises. The outputs were sales and profits. All variables were deflated by using the GDP deflator. In their conclusions the authors indicated that the average productivity of the agencies, on the whole, increased during the period contemplated mainly due to the improvement in technical progress in almost all cases.

Botti, Briec, Peypoch, and Solonandrasana (2010) continued the work initiated by Barros, Botti, and Peypoch (2009), analysing the same database for the period 2000–2004 and variables based on the Luenberger productivity indicator (L) and its decomposition into efficiency change and technological change. The conclusions indicated an increase in the productivity of the majority of the travel agencies considered in the study, largely due to technological change. In addition, it was possible to raise productivity in almost all the agencies (for example, by adopting proactive strategies that lead to exploiting new market segments).

The review of these studies provides information regarding the different methods of analysis which have been previously used in order to evaluate the levels of productivity of companies operating in the tourism and hospitality sectors, as well as the variables that have been used as inputs and outputs with the same objective. Nevertheless, the choice of variables is also based on the opinion of company managers from the sector and on the availability of the information required (Barros & Matias, 2006; Barros, Dieke, & Santos, 2010).

Initially focusing on the type of statistical model used, the fundamental idea that can be drawn from the literature reviewed is that the Malmquist Index and the Luenberger Index (same percentage) are the most commonly used methods for studying productivity, while the frequency of use of other methods has been significantly lower. Of these first two methods, the Malmquist Indexes offer the possibility of combining results with additional statistical techniques that provide complementary information and/or correct the limitations of the results. In fact, in more than 50% of the above-

mentioned cases, the Malmquist Index was combined with other methods in order to achieve these objectives (Tobit regression, analysis of variance, the Mann Whitney U Test, bootstrap...).

With regard to the types of variables that have been used in previous analyses, the information that may be extracted is less clear-cut as in the case of the statistical models used, as the types of units analysed are very different. Logically, this implies that the variables selected as inputs and outputs have very few factors in common and only when they are grouped into large categories is it possible to draw general conclusions.

Along these lines, and with respect to the inputs, the most frequently used variables in the studies reviewed are those related to aspects such as labour, operational costs, investment and environmental factors. In terms of outputs, the variables used generally refer to total sales or sales by section and the number of clients. Only in some cases, and very infrequently, other variables have been used related to other characteristics such as profits (11.26 %), value added (1.4 %) or a customer satisfaction index (8.45 %).

Notwithstanding, and as previously mentioned, the final selection of the variables to be used in the analysis not only depends on the conclusions drawn from a prior review of the literature on the subject area but also on their availability and the opinions of practising professionals within the sector.

### **3. Methodology**

Firstly, the productivity analysis of these agencies has been undertaken using DEA and the calculation of the Malmquist Productivity Index (Malmquist, 1953). DEA allows the units analysed to be organised into a hierarchy in terms of efficiency levels, whilst the Malmquist index enables changes in productivity to be estimated dynamically.

DEA is a technique based on obtaining an efficiency frontier using a set of observations considered without having to understand any kind of functional relationship between inputs and outputs (Charnes, Cooper, Lewin and Seiford, 1997 )

In terms of the input-oriented evaluation process, for example, a decision-making unit (DMU) is considered to be efficient when it uses the minimum input empirically observable from any examined DMU given its output vector (Charnes, Cooper and Rhodes, 1981) In other words, a DMU is inefficient when it cannot generate maximum output levels with minimal input consumption (Cooper, Sieford and Zhu, 2004).

Following Färe, Grosskopf and Lovell (1994) a DEA-based measure of any change in the unit's productivity over time will be calculated using the Malmquist Productivity Index (M) (Malmquist, 1953). The main issue is that changes in productivity can be the result of efficiency progress, but sometimes they can be caused by technological improvements and M allows changes in productivity to be divided into two initial factors referring to technical efficiency (E) and technological change (T).

With regard to the above, the Malmquist index (M) between time periods  $t$  and  $t+1$  would be defined as:

$$M_{t,t+1}(X_{t+1}, Y_{t+1}, X_t, Y_t) = \left[ \frac{D_t(X_{t+1}, Y_{t+1})}{D_t(X_t, Y_t)} \frac{D_{t+1}(X_{t+1}, Y_{t+1})}{D_{t+1}(X_t, Y_t)} \right]^{(1/2)} \quad (1)$$

As mentioned before, this index can initially be broken down into two components: technological change (T) and technical efficiency change (E). The breakdown is as follows:

$$M_{t,t+1}(X_{t+1}, Y_{t+1}, X_t, Y_t) = \underbrace{\left[ \frac{D_{t+1}(X_{t+1}, Y_{t+1})}{D_t(X_t, Y_t)} \right]}_E \cdot \underbrace{\left[ \frac{D_t(X_{t+1}, Y_{t+1})}{D_{t+1}(X_{t+1}, Y_{t+1})} \frac{D_t(X_t, Y_t)}{D_{t+1}(X_t, Y_t)} \right]}_T^{(1/2)} \quad (2)$$

where, the first ratio (E) represents changes in technical efficiency between two periods (t and t+1) and the second ratio (T) is a measure of technological progress between the same time periods.

The four different elements shown in equation (2) can be achieved using mathematical programming. In particular, a non-radial and non-oriented approach is used to estimate the Malmquist Productivity Index. For this study, an input-oriented model was chosen because all the managers of the travel agencies expressed that due to the high level of competitiveness their attention was focused on reducing costs (as capturing new clients was highly difficult).

So,

$$\begin{aligned} [D_{0t}(X_{t+1}, Y_{t+1})] &= \min_{\theta} \theta \\ \text{s.a. } \sum_{k=1}^K \lambda^{k,t} \cdot X_r^{k,t} &\leq \theta \cdot X_r^{k,t+1}, \forall r \\ \sum_{k=1}^K \lambda^{k,t} \cdot Y_s^{k,t} &\geq Y_s^{k,t+1}, \forall s \\ \sum_{k=1}^K \lambda^{k,t} &= 1 \\ \lambda^{k,t} &\geq 0, \forall k \end{aligned} \quad (3)$$

where  $X_r^{k,t}$ , represents the rth respective input observed at DMU<sub>k</sub> in year t (with r:1...R);  $Y_s^{k,t}$ , is the sth respective output observed at DMU<sub>k</sub> in year t (with s:1...S); and  $\lambda^{k,t}$ , is a coefficient that shows the proportion of DMU<sub>k</sub> used to evaluate DMU<sub>k'</sub> in year t (with k:1...K the number of DMUs -the sub-index k' shall be used to name the DMU under analysis-). The rest of the elements of expression (2) would be obtained analogously.

The other method employed for analysing the productivity of travel agencies is based on the calculation of the Luenberger Index. The objective is to obtain two different measurements of productivity so as to compare them and enrich the conclusions.

The second method used in this study is based on the directional distance function (Chambers et al, 1996, 1998) and on L. The directional distance function projects the input and/or output vector towards the technology frontier, following a pre-assigned direction, thereby determining the direction of the adjustment path which enables the DMU in question to reach the production frontier. Furthermore, it is possible to evaluate the improvements in economies of scale and production which can be simultaneously achieved by a DMU.

The directional distance function is defined as:

$$\begin{aligned}
 [D_t(X_{t+1}, Y_{t+1}); g] &= \max \delta_t \\
 \text{s.t.} & - \sum_{k=1}^K \lambda^{k,t} \cdot X_r^{k,t} + X_r^{k,t} \leq \delta_t \cdot X_r^{k,t+1}, \forall r \\
 & \sum_{k=1}^K \lambda^{k,t} \cdot Y_s^{k,t} - Y_s^{k,t} \geq \delta_t \cdot Y_s^{k,t+1}, \forall s \quad (4) \\
 & \sum_{k=1}^K \lambda^{k,t} = 1 \\
 & \lambda^{k,t} \geq 0, \forall k, r, s
 \end{aligned}$$

In relation to (4), L is defined as:

$$L_{t,t+1}(X_{t+1}, Y_{t+1}, X_t, Y_t) = (1/2) \cdot [D_{t+1}(X_t, Y_t; g) - D_{t+1}(X_{t+1}, Y_{t+1}; g) + D_t(X_t, Y_t; g) - D_t(X_{t+1}, Y_{t+1}; g)] \quad (5)$$

where g represents the direction followed for calculating the directional distance function and which in this study is taken as  $g = (x, y)$ , following the idea of Barros, Boti and Peypoch (2009).

Moreover, it is possible to decompose L through the equation:

$$\begin{aligned}
 L_{t,t+1}(X_{t+1}, Y_{t+1}, X_t, Y_t) &= \underbrace{[D_t(X_t, Y_t; g) - D_{t+1}(X_{t+1}, Y_{t+1}; g)]}_{\text{TEC}} + \\
 & (1/2) \cdot [D_{t+1}(X_{t+1}, Y_{t+1}; g) - D_t(X_{t+1}, Y_{t+1}; g) + \\
 & \underbrace{D_{t+1}(X_t, Y_t; g) - D_t(X_t, Y_t; g)}_{\text{TC}}] \quad (6)
 \end{aligned}$$

where TEC refers to the technical efficiency change between the two periods (t y t+1) and TC refers to technological change (change in productivity due to a variation in technology between t y t+1).

#### 4. Data Analysed

A survey was conducted among travel agencies located in the Alicante city area between March and April 2008. The characteristics of the agencies were as similar as possible in order to obtain a high level of homogeneity among the DMUs. In particular,



special care was taken to ensure that the agencies carried out the same type of economic activity, selling their products in both the domestic and foreign markets.

The group of variables considered in the questionnaire were selected by taking into account both the information obtained from the review of the literature on the subject and the opinions of practising experts from the sector who had previously agreed to be interviewed (eleven in total). In these interviews the subjects were asked to provide information regarding the variables which, in their opinion, influenced the productivity levels of their companies, whether they were inputs, outputs or other types of variable that could affect the results.

Unfortunately, the response rate of the questionnaires was very low, despite repeated attempts and the high level of confidentiality of the study. Consequently, only 22 agencies could be analysed, representing 17.32% of all agencies surveyed.

The variables chosen as activity inputs were: the number of employees (NE), deflated annual expenditure (AE), and the potential service (PS) which the agency would be capable of providing. The outputs selected were: the number of customers (NC) and the deflated average spend per customer (AS). AE was adjusted for inflation using the implicit GDP deflator and AS by using the CPI. A summary of the most important statistical characteristics of these variables can be found in Table 1.

**Table 1. Input and output characteristics. 2004-2007.**

	<b>NUMBER OF EMPLOYEES (NE)</b>	<b>POTENTIAL SERVICE (PS)</b>	<b>DEFLATED ANNUAL EXPENDITURE (AE)</b>	<b>NUMBER OF CUSTOMERS (NC)</b>	<b>DEFLATED AVERAGE SPEND PER CUSTOMER (AS)</b>
<b>AVERAGE</b>	2.8409	3 065.9773	6967.0568	1781.0795	968.7500
<b>STANDARD DEVIATION</b>	1.4052	3 177.8774	1 276.3213	2 130.3098	506.8324
<b>MAXIMUM</b>	7.0000	15 850.0000	10 600.0000	9 500.0000	2 200.0000
<b>MINIMUM</b>	1.0000	175.0000	5220.0000	124.0000	170.0000

**Source:** Authors

Finally, the reliability of the results could be confirmed because  $22 > \max\{R*S, 3*(R+S)\} = 15$ , where R is the number of inputs used and S is the number of outputs (Cooper, Seiford, & Tone, 2007). The results obtained using the data available for the agencies studied were analysed by means of the Malmquist Productivity Index, using the expressions described in equations (1), (2) and (3) programmed in MATLAB 7.9.0.529 (R2009b). The input orientation was chosen due to the opinions expressed by representatives from the sector, who explained that, given the difficulty they had been experiencing in increasing the number of clients due to the rapid increase in competition, they were focussing their efforts on cost saving. Likewise, the same data were analysed using L as described in equations (4), (5) and (6).

## 5. Results

In light of the assumptions described above, the results obtained are shown in Table 3 where M represents the value of the Malmquist index for the corresponding period. E is the efficiency change and T the technological change, as described in equation (4). Values greater than one denote progress and vice versa. Furthermore, this table also includes the values of L, TEC and TC.

**Table 2. Malmquist and L results for 2004-2007.**

<b>DMU</b>	<b>M</b>	<b>E</b>	<b>T</b>	<b>L</b>	<b>TEC</b>	<b>TC</b>
1	1.0433	0.5785	1.8034	0.0124	-0.5137	0.5261
2	1.2842	0.9465	1.3568	0.1596	0.0237	0.1359
3	1.2547	1	1.2547	0.1148	0.0192	0.0956
4	1.1611	0.6253	1.8569	0.0951	-0.3007	0.3958
5	1.2474	0.9213	1.354	0.1126	-0.063	0.1756
6	0.8739	0.613	1.4256	-0.0728	-0.3479	0.2751
7	0.6810	0.6235	1.0922	-0.1622	-0.2879	0.1257
8	1.5682	1.1	1.4256	0.2752	-0.4274	0.7026
9	1.2958	1	1.2958	0.1259	-0.5199	0.6458
10	1.1096	0.8523	1.3019	0.0396	-0.109	0.1486
11	1.3011	0.9647	1.3487	0.1468	-0.0227	0.1695
12	1.3436	1.023	1.3134	0.1592	-0.0004	0.1596
13	0.9238	0.7114	1.2986	-0.0021	-0.1522	0.1501
14	0.9853	0.8553	1.152	0.0013	-0.0689	0.0702
15	0.7748	0.6271	1.2356	-0.1195	-0.2418	0.1223
16	1.1325	1.0354	1.0938	0.0726	0.028	0.0446
17	1.0339	0.7985	1.2948	0.0159	-0.14	0.1559
18	1.1390	0.8844	1.2879	0.0596	-0.0861	0.1457
19	1.2536	1	1.2536	0.1252	0.0016	0.1236
20	2.0452	1.1352	1.8016	1.0952	0.694	0.4012
21	0.8111	0.8859	0.9156	-0.0921	-0.0525	-0.0396
22	1.1201	0.8652	1.2946	0.0495	-0.0997	0.1492
<b>MEAN</b>	1.0395	0.7986	1.3016	0.0148	-0.1372	0.1520

**Source:** Authors

From a general perspective, and observing the initial estimates without performing any kind of bootstrap technique, in the previous table we can observe how the average level of productivity increases in the period, since the average value of M was higher than one (1.0395) and the level of L was positive (0.0148). In fact, except for the differences in values between the results, on the whole both indices coincide in indicating an increase in productivity.

If we divide M into its two components (E and T) we can see that the reason for this resides in the fact that both of the technological changes (T and TC) reached an average value that point to this conclusion. This means that in spite of the fact that the resources were not used in the most appropriate way, given the reduced average value of E, the

improvement in productivity generated by technological innovation could partly reduce the final fall in productivity levels.

From this point of view, it would be necessary to implement actions aimed at improving investment planning, experience in resource management and the administration and organisation of agencies.

## 6. Conclusions

This study assesses the level of productivity of the economic activity of travel agencies in the city of Alicante during the period 2004-2007. DEA based Malmquist productivity indices and Luenberger productivity indexes were used to achieve this purpose. .

The productivity analysis was carried out by dividing its value into different components (E, T, TEC and TC) which helped to provide information about the causes of the general trend that was observed.

The conclusions obtained from the initial estimates were very similar. In particular, the improvement obtained in production possibilities, revealing the good results obtained in the variable that measures the evolution of the technological component, moderated the relatively low levels in the productivity figures which were caused by a misuse of resources and/or outputs in the sector.

Nevertheless, the possibility of being able to access information regarding the profits of each agency could alter the conclusions obtained in terms of these three variables. Unfortunately, the managers of the agencies analysed were not willing to provide this type of information.

Apart from the limitations related to the quantity of available information, another of the major inconveniences encountered in this study has been the impossibility of increasing the number of agencies analysed, despite the insistence in capturing additional responses. To this respect, the existence of public data bases which incorporate economic information of this type, or even non-controllable variables that could affect the productivity levels of these agencies (for example, the population of the surrounding area or the income per capita of that population), would be of great use.

## 7.- Bibliography

Anderson, R.I., Fish, M., Xia, Y., & Michello, F. (1999). Measuring efficiency in the hotel industry: a stochastic frontier approach. *Hospitality Management*, 18, 45-57.

Anderson, R.I., Lewis, D., & Parker, M.E. (1999). Another look at the efficiency of corporate travel management departments. *Journal of Travel Research*, 37, February, 267-272.

Anderson, R.I., Fok, R., & Scott, J. (2000). Hotel industry efficiency: an advanced linear programming examination. *American Business Review*, 18(1), 40-48.

Assaf, A., Barros, C.P., & Josiassen, A. (2010). Hotel efficiency: a bootstrapped metafrontier approach. *International journal of hospitality management*, 29, 168-475.

- Banker, R.D., & Morey, R.C. (1986). Efficiency analysis for exogenously fixed inputs and outputs. *Operations Research*, 34(4), 513-521.
- Baker, M., & Riley, M. (1994). News perspectives on productivity in hotels: some advances and new directions. *International Journal of Hospitality Management*, 13(4), 297-311.
- Barros, C.P. (2004). A stochastic cost frontier in the Portuguese hotel industry. *Tourism Economics*, 10(2), 177-192.
- Barros, C.P. (2005a). Evaluating the efficiency of a small hotel chain with Malmquist productivity index. *International Journal of Tourism Research*, 7, 173-184.
- Barros, C.P. (2005b). Measuring efficiency in the hotel sector. *Annals of Tourism Research*, 32(2), 465-477.
- Barros, C.P. (2006). Analysing the rate of technical change in the Portuguese hotel industry. *Tourism Economics*, 12(3), 325-346.
- Barros, C.P., & Alves, F. P. (2004). Productivity in the tourism industry. *International Advances in Economic Research*, 10(3), 215-225.
- Barros, C.P., & Dieke, P.U.C. (2007). Analyzing the total productivity change in travel agencies. *Tourism Analysis*, 12, 27-37.
- Barros, C.P., & Mascarenhas, M.J. (2005). Technical and allocative efficiency in a chain of small Hotels. *Hospitality Management*, 24, 415-436.
- Barros, C.P., & Matias, A. (2006). Assessing the efficiency of travel agencies with a stochastic cost frontier: a Portuguese case study. *International Journal of Tourism Research*, 8, 367-379.
- Barros, C.P., & Dieke, P.U.C. (2008). Technical efficiency of African hotels. *International Journal of Hospitality Management*, 27, 438-447.
- Barros, C.P., Botti, L., & Peypoch, N. (2009). A framework to analyze productivity changes: theoretical aspects and application to the Portuguese travel agencies sector. *Tourism Analysis*, 14, 325-335.
- Barros, C.P., Peypoch, N, & Solonandrasana, B. (2009). Efficiency and productivity growth in hotel industry. *International Journal of Tourism Research*, 11, 389-402.
- Barros, C.P., Dieke, P.U.C., & Santos, C.M. (2010). Heterogeneous technical efficiency of Hotels in Luanda, Angola. *Tourism Economics*, 16(1), 137-151.
- Bell, R.A., & Morey, R.C. (1994). The search for appropriate benchmarking partners: a macro approach and application to corporate travel management. *Omega, International Journal of Management Science*, 22(5), 477-490.
- Bell, R.A., & Morey, R.C. (1995). Increasing the efficiency of corporate travel management through macro benchmarking. *Journal of Travel Research*, 33(3), 11-20.
- Bosetti, V., Cassinelli, M., & Lanza, A. (2006). Benchmarking in tourism destination, keeping in mind the sustainable paradigm. *Nota di Lavoro* 12.2006, Fondazione Eni Enrico Mattei.

- Botti, L., Briec, W., Peypoch, N., & Solonandrasana, B. (2010). Productivity growth and sources of technological change in travel agencies. *Tourism Economics*, 16(2), 273-285.
- Brown, R.J., & Ragsdale, C.T. (2002). The competitive market efficiency of hotel brands: an application of data envelopment analysis. *Journal of Hospitality & Tourism Research*, 26(4), 332-360.
- Chao-Tung, W., Chia-Yon, C., & Jung-Feng, C. (2009). An empirical study on operational efficiency for metropolitan international hotels in Taiwan. *The Journal of American Academy of Business*, 15(1), 254-263
- Chambers, R.G., Chung, Y., & Färe, R. (1996): Benefit and distance functions. *Journal of Economic Theory*, 70(2), 407-419.
- Chambers, R.G., Chung, Y., & Färe, R. (1998): Profit, directional distance functions, and Nerlovian efficiency. *Journal of Optimization Theory and Applications*, 98(2), 351-364.
- Charnes, A. Cooper, W.W., Lewin, A.Y., & Seiford, L.M. (1997a). Introduction. In A. Charnes, W.W. Cooper, A.Y. Lewin, & L.M. Seiford (Eds.), *Data envelopment analysis: theory, methodology and applications* (pp. 3-22). 2<sup>nd</sup> Edition, Norwell: Kluwer Academic Publishers.
- Charnes, A. Cooper, W.W., Lewin, A.Y., & Seiford, L.M.. (1997b). Basic DEA models. In A. Charnes, W.W. Cooper, A.Y. Lewin, & L.M. Seiford (Eds.), *Data envelopment analysis: theory, methodology and applications* (pp. 23-48). 2<sup>nd</sup> Edition, Norwell: Kluwer Academic Publishers.
- Charnes, A., Cooper, W.W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European Journal of Operational Research*, 2, 429-444.
- Charnes, A., Cooper, W.W., & Rhodes, E. (1981). Evaluating program and managerial efficiency: an application of data envelopment analysis to program follow through. *Management Science*, 27(6), 668-97.
- Cheng, J., Chen, C., Chen, Y., Chou, C., Liu, C., & Jung, C. (2009). Food and beverages management performance of Taipei international tourist hotels. *The Business Review*, 13(1), 319-325.
- Cheng, J., Chen, C., Liu, C., & Jung, C. (2009). A study of management efficiency for international resort hotels in Taiwan. *The Journal of American Academy of Business*. 15(1), 139-146.
- Chiang, W., Tsai, M., & Wang, L.S. (2004). A DEA evaluation of Taipei hotels. *Annals of Tourism Research*, 31(3), 712-715.
- Conover, W.J. (1999). The use of ranks. In W.J. Conover (Ed.) *Practical nonparametric statistics* (pp. 203-292). 3<sup>rd</sup> Edition, New York: John Wiley & Sons.
- Cooper, W.W., Seiford, L. M., & Tone, K. (2007). *Data envelopment analysis. A comprehensive text with models, applications, references and dea-solver software*. 2<sup>nd</sup> Edition, New York: Springer.

- Cooper, W.W., Seiford, L.M., & Zhu, J. (2004). Data envelopment analysis: history, models and interpretations. In W.W. Cooper, L.M. Seiford, & J. Zhu (Eds.) *Handbook on data envelopment analysis* (pp. 1-40). Norwell: Kluwer Academic Publishers Group.
- County Council of Alicante. (2009). Tourist data of Alicante. Retrieved April 14, 2009, from <http://www.dip-alicante.es/documentacion/8turismo.asp?codigo=03014>
- Davutyan, N. (2007). Measuring the quality of hospitality at Antalya. *International Journal of Tourism Research*, 9, 51-57.
- Deng, W., Sung, M., & Huang, H. (2010). The influence of quality management culture, quality consciousness and service behaviour for operating efficiency. *The Business Review*, 15(2), 152-157.
- Donthu, N., & Yoo, B. (1998). Retail productivity assessment using data envelopment analysis. *Journal of Retailing*, 74(1), 89-105.
- Donthu, N., Hershberger, E.K., & Osmonbekov, T. (2005). Benchmarking marketing productivity using data envelopment analysis. *Journal of Business Research*, 58, 1474-1482.
- Efron, B. (1979). Bootstrap methods: another look at the jackknife. *The Annals of Statistics*, 7(1), 1-26.
- Färe, R., Grosskopf, S., & Lovell, C.A.K. (1994). *Production frontiers*. Cambridge: Cambridge University Press.
- Fuchs, M. (2004). Strategy development in tourism destinations: a DEA approach. *The Poznan University of Economics Review*, 4(1), 52-73.
- Fuentes, R. (2009a, August). *Productivity of Travel Agencies: A case study of Alicante, Spain*. Paper presented at the 12<sup>th</sup> QMOD and Toulon-Verona Conference, Verona.
- Fuentes, R. (2009b, July). *Productivity of Travel Agencies: A step ahead*. Paper presented at the 23<sup>rd</sup> European Conference on Operational Research, Bonn.
- Fuentes, R. (2010). Efficiency of travel agencies: A case study of Alicante, Spain, *Tourism Management*, doi:10.1016/j.tourman.2009.12.003
- Fuentes, R., Espinosa, E., Hernández, G., & Lillo, A. (2010a, March 20). BlogTur: Blog de turismo. Retrieved from <http://blogtur.crearblog.com/>
- Fuentes, R., Espinosa, E., Hernández, G., & Lillo, A. (2010b, March 20). WikiTur: Wiki de turismo. Retrieved from <http://gitetur.wikispaces.com>
- Gibbons, J. D., & Chakraborti, S. (1992). *Nonparametric statistical inference*. 3<sup>rd</sup> Edition. New York: Marcel Dekker, INC.
- Giménez-García, V., Martínez-Parra, J. L., & Buffa, F. P. (2007). Improving resource utilization in multi-unit networked organizations: the case of a Spanish restaurant chain. *Tourism Management*, 28, 262-270.
- Hruschka, H. (1986). Ansätze der Effizienzmessung von Betrieben. *Journal für Betriebswirtschaft*, 36(2), 76-85.

- Hsieh, L., & Lin, L. (2010). A performance evaluation model for international tourist hotels in Taiwan. An application of the relational network DEA. *International Journal of Hospitality Management*, 29, 14-24.
- Hu, B.A., & Cai, L.A. (2004). Hotel labor productivity assessment: a data envelopment analysis. *Journal of Travel & Tourism Marketing*, 16(2/3), 27-38.
- Hu, J., Chiu, C., Shieh, H., & Huang, C. (2010). A stochastic cost efficiency analysis of international tourist hotels in Taiwan. *International Journal of Hospitality Management*, 29, 99-107.
- Hwang, S., & Chang, T. (2003). Using data envelopment analysis to measure hotel managerial efficiency change in Taiwan. *Tourism Management*, 24, 357-69.
- Johns, N., Howcroft, B., & Drake, L. (1997). The use of data envelopment analysis to monitor hotel productivity. *Progress in Tourism and Hospitality Research*, 3, 119-127.
- Keh, H.T., Chu, S., & Xu, J. (2006). Efficiency, effectiveness and productivity of marketing in services. *European Journal of Operational Research*, 170, 265-276.
- Köksal, C.D., & Aksu, A.A. (2007). Efficiency evaluation of A-group travel agencies with data envelopment analysis (DEA): a case study in the Antalya region, Turkey. *Tourism Management*, 28, 830-34.
- Löthgren, M., & Tambour, M. (1999). Bootstrapping the data envelopment analysis Mamquist productivity index. *Applied Economics*, 31, 417-425.
- Malmquist, S. (1953). Index numbers and indifference surfaces, *Trabajos de Estadística*, 4, pp. 209-42.
- McLaughlin, C.P., & Coffey, S. (1990). Measuring productivity on services. *International Journal of Service Industry Management*, 1(1), 46-64.
- Min, H., Min, H., & Joo, S. (2008). A data envelopment analysis-based balanced scorecard for measuring the comparative efficiency of Korean luxury hotels. *International Journal of Quality & Reliability Management*, 25(4), 349-365.
- Min, H., Min, H., & Joo, S.J. (2009). A data envelopment analysis on assessing the competitiveness of Korean hotels. *The Service Industries Journal*, 29(3), 367-385.
- Min, H., Min, H., Joo, S.J., & Kim, J. (2009). Evaluating the financial performances of Korean luxury hotels using data envelopment analysis. *The Service Industries Journal*, 29(6), 835-845.
- Morey, R. C., & Dittman, D.A. (1995). Evaluating a hotel GM's performance. A case study in benchmarking. *Cornell Hotel and Restaurant Administration Quarterly*, October, 30-35.
- Morey, R. C., & Dittman, D.A. (1997). An aid in selecting the brand, size and other strategic choices for a hotel. *The Council on Hotel, Restaurant and Institutional Education*, 21(1), 71-99.

Morey, R. C., & Dittman, D.A. (2003). Evaluating a hotel GM's performance. Updated and extension. *Cornell Hotel and Restaurant Administration Quarterly*, 44(5/6), 53-68.

National Statistics Institute. (2009). Annual services survey. 2007. Retrieved April 14, 2009, from

<http://www.ine.es/jaximenu.do?type=pcaxis&path=%2Ft37%2Fe01%2Fprovi%2F&file=pcaxis&L=0>

Neves, J. C., & Lourenço, S. (2009). Using data envelopment analysis to select strategies that improve the performance of hotel companies. *International Journal of Contemporary Hospitality Management*, 21(6), 698-712.

Parsons, L. J. (1997). Productivity versus relative efficiency in marketing: past and future. In G. Laurente, G. L. Lilien, & B. Prass (Eds.), *Research traditions in marketing*. Boston, M. A.: Kluwer.

Perrigot, R., Cliquet, G., & Piot-Lepetit, I. (2008). Plural form chain and efficiency: insights from the French hotel chains and the DEA methodology. *European Management Journal*, 27, 268-280.

Peypoch, N. (2007). On measuring tourism productivity. *Asia Pacific Journal of Tourism Research*, 12(3), 237-244.

Peypoch, N., & Sbai, S. (2010). Productivity growth and biased technological change: The case of Moroccan hotels. *International Journal of Hospitality Management*, in press, doi: 10.1016/j.ijhm.2010.04.005.

Pulina, M., Detotto, C., & Paba, A. (2010). An investigation into the relationship between size and efficiency of the Italian hospitality sector: A windows DEA approach. *European Journal of Operational Research*, 204, 613-620.

Regional Government of Valencia (2008). Public list of travel agencies in Alicante. Retrieved April 14, 2009 from [http://xml.turisme.gva.es:7777/establecimientos/aavv\\_alacant.xsql](http://xml.turisme.gva.es:7777/establecimientos/aavv_alacant.xsql)

Reynolds, D. (2004). An exploratory investigation of multiunit restaurant productivity assessment using data envelopment analysis. *Journal of Travel & Tourism Marketing*, 16(2/3), 19-26.

Reynolds, D., & Thompson, G.M. (2007). Multiunit restaurant productivity assessment using three-phase data envelopment analysis. *Hospitality Management*, 26, 20-32.

Sellers-Rubio, R., & Nicolau-Gonzálbez, J.L. (2009). Assessing performance in services: the travel agency industry. *The Service Industries Journal*, 29(5), 653-667.

Shang, J., Hung, W., & Wang, F. (2008). Ecommerce and hotel performance: three stage DEA analysis. *The Service Industries Journal*, 28(4), 529-540.

Sharma, A., & Sneed, J. (2008) Performance analysis of small hotels in Tanzania. *Journal of Services Research*, 8, February, 83-100.



- Sheskin, D. (2000). *Handbook of parametric and nonparametric statistical procedures*. 2<sup>nd</sup> Edition. Florida: Chapman & Hall/CRC.
- Sigala, M. (2003). Developing and benchmarking internet marketing strategies in the hotel sector in Greece. *Journal of Hospitality & Tourism Research*, 27(4), 375-401.
- Sigala, M. (2004). Using data envelopment analysis for measuring and benchmarking productivity in the hotel sector. *Journal of Travel & Tourism Marketing*, 16(2/3), 39-60.
- Sigala, M., & Mylonakis, J. (2005). Developing a data envelopment analysis model for measuring and isolating the impact of contextual factors on hotel productivity. *International Journal of Business Performance Management*, 7(2), 174-190.
- Sigala, M., Airey, D., Jones, P., & Lockwood, A. (2004). ICT paradox lost? A stepwise DEA methodology to evaluate technology investments in tourism settings. *Journal of Travel Research*, 43, November, 180-192.
- Sigala, M., Jones, P., Lockwood, A., & Airey, D. (2005). Productivity in hotels: a stepwise data envelopment analysis of hotels' rooms division processes. *The Service Industrial Journal*, 25(1), 61-81.
- Silverman, B.W. (1986). *Density estimation for statistics and data analysis*. London: Chapman and Hall.
- Simar, L., & Wilson, P.W. (1998). Sensitivity analysis of efficiency scores: how to bootstrap in nonparametric frontier models. *Management Science*, 44(1), 49-61.
- Simar, L., & Wilson, P.W. (1999). Estimating bootstrapping Malmquist indices. *European Journal of Operational Research*, 115, 459-471.
- Simar, L., & Wilson, P.W. (2000). Statistical inference in nonparametric frontier models: the state of the art. *Journal of Productivity Analysis*, 13(1), 49-78.
- Simar, L., & Wilson, P.W. (2002). Non-parametric tests of returns to scale. *European Journal of Operational Research*, 139, 115-132.
- Smeral, E. (2009). Growth accounting for hotel and restaurant industries. *Journal of Travel Research*, 47(4), 413-424.
- Tarim, S., Dener, H.I., & Tarim, S. A. (2000). Efficiency measurement in the hotel industry: output factor constrained DEA application. *Anatolia: An International Journal of Tourism and Hospitality Research*, 11(2), 111-123.
- Taylor, J., Reynolds, D., & Brown, D. M. (2009). Multi-factor menu analysis using data envelopment analysis. *International Journal of Contemporary Hospitality Management*, 21(2), 213-225.
- Tortosa-Ausina, E., Grifell-Tatjé, E., Armero, C., & Conesa, D. (2008). Sensitivity analysis of efficiency and Malmquist productivity indices: an application to spanish savings Banks. *European Journal of Operational Research*, 184, 1062-1084.
- Wang, F., Hung, W., & Shang, J. (2006). Measuring the cost efficiency of international tourist hotels in Taiwan. *Tourism Economics*, 12(1), 65-85.

Wöber, K.W. (2000). Benchmarking hotel operations on the Internet: a data envelopment analysis approach. *Information Technology and Tourism*, 3(3/4), 195-212.

Wöber, K.W. (2006). Data envelopment analysis. *Journal of Travel & Tourism Marketing*, 21(4), 91-108.

Wöber, K.W., & Fesenmaier, D.R. (2004). A multi-criteria approach to destination benchmarking: a case study of state tourism advertising programs in the United States. *Journal of Travel & Tourism Marketing*, 16(2/3), 1-18.

Yu, M., & Lee, B.C.Y. (2009). Efficiency and effectiveness of service business: evidence from international tourist hotels in Taiwan. *Tourism Management*, 30, 571-580.

**Title: Quality and evaluation of teaching in Spanish universities**

**Authors:** Alvira, F.; Aguilar, M. J.; Betrisey, D.; Blanco, F.; Lahera-Sánchez, A.; Mitxelena, C.; Velázquez, C.

e-mail: [evalmed@cps.ucm.es](mailto:evalmed@cps.ucm.es), [fam@cps.ucm.es](mailto:fam@cps.ucm.es), [chiqui@cps.ucm.es](mailto:chiqui@cps.ucm.es)

**Session:** Higher Education

**Institutional affiliation:** Facultad de CC. Políticas y Sociología de la Universidad Complutense de Madrid (Spain), Escuela Universitaria de Trabajo Social de la Universidad de Castilla – La Mancha (Spain)

**ABSTRACT**

First results from research entitled “The uses of evaluation: the case of university teaching evaluation”, financed by the Spanish I+D National Plan, are presented and analyzed. Spanish universities under the umbrella of Docentia program (theoretical framework for teaching evaluation) differ in their ultimate goal for the evaluation: some use it in a summative way, most use it in a formative way. In all universities the long range goal is to improve the quality of the teaching by motivating higher education teachers to adopt a client oriented perspective (orientation towards students) and a continuous improvement perspective by programming teaching activities and by critically reviewing implemented teaching activities; ultimately the goal is applying Deming circle of continuous improvement to higher education.

But the fact is that although some universities give economic rewards to faculty better evaluated, all Universities leave up to the teachers to undertake the necessary changes for a quality teaching; more so, no universities monitor those changes should be undertaken. The big question is: Are we getting universities of excellence (in teaching) by carrying out the formally and officially evaluation of teaching ? The preliminary answer is close to NO.

# Quality and evaluation of teaching in Spanish universities

## Introduction

It seems clear nowadays that “the good cloth” does not sell anymore in “a closed chest”; likewise the naive believe that program evaluation results could be used automatically and immediately has long gone away.

To the expressed and shown concern of M. Patton (1997), C. Weiss (1988 y 1998) and other many authors and institutions for developing ways and procedures for maximizing probability of use of evaluation results there has followed a frenetic theoretical development of:

- Formulation of taxonomies and types of uses,
- Search for factors related with use and with the different types of uses that were emerging,
- And, last but not least, rethinking and reconceptualizing the concept “use” offering the alternative more encompassing term of “influence” (R. Cummings, 2002; K. E. Kirkhart, 2000; R. B. Johnson, 1998).

All these developments make it clear the existing concern for proving the usefulness of program evaluation due to its evident instrumental character opposite to planning, programming and social intervention.

The theoretical status of the concept “use” can be placed at the same level than the “value” dimension as W. R. Shadish, T. D. Cook y L. C. Leviton (1991) show in his seminal work. Together with the dimensions of knowledge and theory of the program to be evaluated, and its practice, these five are essential dimensions for any theory, methodology or practice for program evaluation.

After all, ¿what for program evaluation if results are not used? Here comes the concern to search for procedures to enhance probability use of evaluation results; when use begins to worry evaluators, first they look for ways to maximize probability of use

(integrating stakeholders into evaluation, participatory evaluation or evaluation focused on utilization... ); afterwards, the aim was to widen the concept of ‘use evaluation’ reaching lastly Kirkhart’s influence concept . Taking a rather cynical look of the entire process, one could say that at the very end evaluation results are always use one way or another (instrumental, symbolic, or process use ), and also by one social actor or another (program financers, directors or professionals, program users, society in general or scientists).

In our presentation we offer a preliminary analysis of our data from a research project financed by the Spanish National Plan for I+D entitled “The uses of evaluation: the case of the Docentia Program in Spain”, which is being undertaken by the research Group EVALMED of the Universidad Complutense of Madrid. The final aim of the research is to elaborate a formalized and structured theoretical model of the uses of evaluations. The case study is focused in the Docentia Program, that is the evaluation of university professors teaching activities, program being promoted by the National Agency of Quality Evaluation and Accreditation in Spanish Universities (ANECA).

## **2.- Theoretical advances in ‘uses of evaluation’ analysis**

Literature review of ‘evaluation uses’ shows a certain agreement on four types of use and also two wide dimensions of variables that can influence it, the type of use and the non-use (R. Cummings, 2002).

These are the four type of use:

- 1. Instrumental:** Evaluation results are used to make changes directly in the program evaluated. Evaluation is used “as it should be”, that is to improve, or terminate, the program evaluated.
- 2. Conceptual:** All or some of the social actors participating in the evaluation obtained a better or new knowledge of the program, get their doubts resolved, or acquire new knowledge on the procedures and processes of evaluation. All this conceptual clarification may end in the long run into an instrumental use.
- 3. Symbolic or political:** Evaluation serves to justify decisions already made about the program; these decisions are usually made by top officials but can be also made by other actors related to the program.

4. **Process use:** People participating in the evaluation process are impacted in their knowledge, beliefs, attitudes or behaviour because of their participation in the process of program evaluation. Again, in the long run, these changes may derive in program, organizational or cultural changes.

The two wide groups or dimensions of variables that have been identified affecting the use (or non-use) of evaluation results are (Kelli Johnson, Lija O. Greenesid, Stacie A. Toal, Jean A. King, Frances Lawrenz and Boris Volkov, 2005):

### **1. Characteristics of the evaluation**

- a) Quality in the communication of evaluation results: process communication between actors, dissemination results, type of recommendations made...
- b) Evaluator's competence and leadership
- c) Evaluation quality, including use of rigorous methodology, evaluation model and characteristics of the evaluation process.
- d) Timeliness of reporting and publishing evaluation results, timing of dissemination and reporting to decision makers.
- e) Evaluation results (outcomes) and whether they are positive or negative, in line with actors expectations and if they can be used to make decisions.
- f) Relevance: information provided is relevant to decision-makers
- g) Credibility: objectivity and a suitable evaluation process.

### **2. Characteristics of the organization where both the program and its evaluation are being implemented**

- a) Personal characteristics of evaluation user (organisational role, social characteristics...)
- b) Receptiveness and commitment (or resistance) with evaluation
- c) Political climate in the Organization: internal conflicts and power struggles, political orientation of authorities of program, external funding or sponsoring dependency networks...

- d) Decision making characteristics: type of decision and its meaning, novelty of program...
- e) Existing contradictory information: external information in contradiction with evaluation outcomes
- f) Information needs of evaluation audiences: types of information and needed information
- g) Stakeholders commitment: commitment with the evaluation and its results, commitment with dissemination...

Carol Weiss (1998) used a different framework to organise evaluation utilization and its characteristics around three specific points :

- How is **use** understood?
- **What** is exactly **used** of evaluations findings?
- And **who** uses what results of evaluations findings?

Utilization types have already being mentioned above; respect to what is exactly used there are a lot of possibilities, among others:

- Evaluation findings or results
- General ideas coming from the evaluation.
- The very simple fact of doing the evaluation (legitimization, accountability...): justifies doing nothing while the evaluation is under way, saying that something is already being done (the evaluation), doing the evaluation legitimizes the program but at the same time a message is being sent about the possibility of the program being wrong ( otherwise what for to evaluate at all?)
- Evaluation process may influence the selection of the information to collect, what to study or to analyze exactly. If a professor is evaluated using a test, the professor will focus his activities in the information giving in the answers to the different items of the test (“teaching to the test” effect)
- Evaluation focalization, specially, the measurements used
- The evaluation design (discussions over evaluation methods)

Lastly with respect to the user of evaluation results many different audiences can be distinguished:

- Single persons: program funders, directors, politicians, technicians, program users, scientific personnel, people participating in similar programs...
- The “learning” organisation
- The informed citizens / civil society

Finally Kirkhart (2000) goes further away changing from the question “How are evaluation findings utilized?” to “How and to what degree evaluation influences, models, helps and changes persons and systems?”. She changes use/usage by the term/concept influence.

### **3.- The Docentia Programme at Spanish Universities**

In 2007 ANECA (National Agency for evaluation, certification and accreditation) started a program to support the Evaluation of teaching at universities (The Docentia Program). In 2011 64 Spanish universities, both public and private, are participating in the program. The aim of the program is “*to satisfy demands made by universities and the higher education system need of having a common model and procedures to guarantee the quality of university teaching, promoting professor development and university teaching recognising*”.

ANECA has design a common theoretical framework underpinning how a quality university teaching has to be done and asks the universities to evaluate that teaching with procedures based in that framework, procedures that universities elaborate, being afterwards verified and accredited by ANECA

Each University specifies the goals of the program that evaluates teaching activities always within the general framework given by ANECA; these goals are not the same for all universities but there is a lot of coincidence in most of the following:

- Improving the quality of teaching at universities
- ✓ Assisting individual professors giving them objective evidence on their teaching so that he/she can improve it



- ✓ Giving objective evidence to be used in the Quality Assurance Systems of the new university degrees
- ✓ Give information on teaching so that decision making based on evidence can be made by the academic authorities

#### **4.- Preliminary findings of the research**

The research is being undertaken in four Spanish Universities, three in the Madrid Region (Complutense, Autónoma y Carlos III) and one in Navarra (Universidad Pública de Navarra). Findings, here offered, are based in the first measurement and information collection made in the four universities. We have interviewed in depth academic authorities in charge of the Docentia Program in the four above mentioned Universities, and have also interviewed, and recorded, 100 professors distributed unevenly among the four universities; both professors with their teaching activities evaluated and professors not evaluated have been interviewed to assure a comparison group. We have collected, and began to analyse, all the existing documents in the four universities concerning the Docentia program.

Docentia began its implementation in these four universities two or three years ago in an experimental way. Consequently there is but a scarce knowledge of Docentia among professors interviewed; in fact there is very little knowledge of the program in the rest of the professors (not evaluated) too. There are many professors denying that Docentia exists although documentation about the program and the procedures is published in all the Institutional Webs; even if it is known it is usually a partial knowledge with many errors regarding who can demand the evaluation and its consequences.

Therefore, if Docentia is not well known and if Docentia is known with errors it is quite difficult that professors evaluation will have real/big consequences due to the fact that all the Universities show a very strong formative orientation in the evaluation, leaving in fact the enhancement of quality teaching and teaching improvement up to the professors having been evaluated.

Both the strong formative orientation and the evaluation orientation to make suggestions for improvement to professors (voluntary followed) – as we shall see later – characterize Docentia and support the above affirmation/assertion: consequences,

impacts, effects and, consequently, use of the evaluation results is going to be scarce if at all.

In three of the four universities the shown confusion about the existence or not of the Docentia Program is due to the fact that there are two different levels of teaching evaluation:

- A first level based on the answers of students to a questionnaire on teaching satisfaction, now on line, self-completed in the classroom. This student based evaluation is mandatory for all professors that are feedbacked with a brief report showing the answers as means, modes, standard deviation or graphically.
- A second level, now voluntary, which is really Docentia, where professors complement students' answers to the questionnaires with their own self reports, and reports from heads of departments or deans together with objective data taken from university archives. Professors receive at the end of the process an evaluation report with change suggestions in some cases.

Professors are therefore evaluated by students whether they participate in Docentia or not. The existence of these two levels has made professors “learned” that evaluation of their teaching activities is just the evaluation done by students through the questionnaires.

Participating in Docentia is being seen and understood as a new requirement to receive a special income complement (being that complement specific to one university, to a Region authority or to the five year income complement that was perceived automatically till the coming of Docentia age).

Academic authorities do not clarify this confusion using both evaluation levels to make decisions and to make reports for the professors.

#### **4.1.- Different types of uses identified in our research**

Data gathered from professors, academic authorities, or Docentia documents show very clearly how different types of evaluation uses presented above are being developed in these Universities. These types of uses according to the taxonomy explained before may be described in the following way:

- 1. Instrumental utilization:** changes in teaching ways, in subjects syllabus, in the ways students participate in learning and teaching...: changes made by professors evaluated in a individual and autonomous way, not systematically. Direct changes promoted by academic authorities prioritizing specific evaluation criteria for assigning income complements following evaluation results: for example coordination of Erasmus programs and participation in the Virtual Campus... Lastly, strong changes like the no renewal of contracts to non permanent professors following a negative evaluation
- 2. Conceptual use:** Self reports that professors have to filled up disclose to them the key aspects of teaching that are relevant for the academic authorities; students's answers to the satisfaction questionnaires disclose what they want and their perceptions. It seems that professors internalize both kind of expectations and perceptions and take them into consideration in their teaching practice. Somehow this process is similar to what is called the "satisficing" model in answering questionnaires in social surveys. Many professors point out that filling up the self reports has made them think about teaching and readiness to teach and at the same time reflecting on what is really valued about teaching by academic authorities.
- 3. Politic or symbolic use:** Universities disseminate global results of their own professors evaluation in order to legitimate themselves before society and before Evaluation Agencies (regional, national and European).
- 4. Process use:** professors and for that matter the rest of the university community receive a lot of information while Docentia is being implemented, although part of this information may be contradictory; besides, as has been already mentioned, professors learn and identify which are the criteria worthy for academic authorities and students, criteria that can be used to improve their evaluation.

## 4.2.- Organization and Bureaucracy in Spanish universities

Spanish public universities are a part of Spanish public administration and, therefore, they have a normative structure profoundly oriented towards warranting the empire of law; law and norms prevail over efficiency, results and orientation to clients. Evaluation, quality and excellence clearly conflict with organizations oriented above all towards law and norms application.

From the point of view of Docentia and of its utilization, this fact has several important consequences:

- “Timing” of the evaluation process and communication of evaluation outcomes is very slow; many process norms have been established referring to publishing documents, application timing, evaluation commissions and the way they are composed and have to act, ways to appeal the reports of evaluation and the different decisions made during the process... Almost in all universities that have been researched the final evaluation report with improvements suggestions takes a year to be drafted and sent to professors. Not only norms but also the amount of different sources of information asked and collected – self reports from professors, reports from the departments and schools – and warranting no problems to the students for their answers, so that the results of students surveys are available at the beginning of next academic course, make for a late evaluation report. Here we have a “timeliness” problem.
- Following up of suggestions for teaching improvement is difficult to do; it is not organizationally clear what organizational body has to do it ( Department, School, Rector’s office) neither how to do it.
- Statutory duality of professors (professors under contract and professors which are civil servants) makes impossible to carry the results of a bad evaluation to his last consequences. Public officials cannot be removed from teaching while professors under labor contracts can.
- Also evaluations by students or in the Docentia Program cannot be carried to the last consequences (it does no matter whether results are good, which will mean to keep the professor well evaluated in teaching a specific subject, or bad, which could mean removing the professor from the subject or from teaching entirely)

due to the peculiar characteristics of University organization (teaching assignments are made by academic status and experience).

#### **4.3.- Are the evaluation procedures adequate and methodologically sound?**

University professors interviewed show constants critics to the procedures used in Docentia valuing that there is a lack of legitimization in the evaluation: the methodological procedures used being basically unsound. These are some of the critical opinions:

- As has already been mentioned there are two different level of evaluation: first level based in the students questionnaires and second level, which is in fact Docentia, using in addition to students' answers reports from other sources. Data coming from students is heavily questioned:
  1. Only some students answer the survey; the no answer rate is very high and has increased since the survey is implemented on line. The final sample lacks external validity, as some professors tell only very critical or very positive students answer the questionnaire.
  2. Critics go too towards questionnaire items, like the item regarding professor's attendance. Besides many items do not give any information on what to do to improve teaching.
  3. Asking students to evaluate teaching is totally inadequate; evaluation should be done by peer observation while teaching.
- There is no agreement on what being a good professor exactly means; consequently it is rather difficult to know if the evaluation results are valid or not. There is agreement in the extremes – a very bad professor or a very good one – but disagreement along the continuum.
- Besides criticizing questionnaire items and biased students samples, professors believe students are not objective evaluators and are not a good referent for evaluating teaching. As a professor explicitly said: students surveys are “consumer satisfaction surveys” quite far away from good evaluation practices.

- There also strong critics to the dimensions utilized in Docentia following ANECA theoretical framework; the framework includes the results of the teaching activities, that is to say, grades obtained by students. Most professors strongly disagree with this, pointing out that grades obtained are more a matter of students behaviour than professor´s.
- In fact, professors argue that information received from Docentia is not very useful to make changes for improvement; they would like to receive more qualitative information and immediate feedback. That is why there are professors that have their own surveys done in the classrooms at the end of course terms; they design up their own questionnaire adapted to their information needs, they apply it in the classroom to the attendant students – solving sampling problems this way – and they have immediate feedback too. This shows very clearly that Docentia has methodological problems that limit its usefulness.

#### **4.4.- “Learning effects” and data manipulation**

- Professors read evaluation reports (either from Docentia or from students evaluation surveys), reflect on them and take them into account for teaching improvement but always after their own re-interpretation of data and reports is made. Reports are useful to rethink teaching activities but there is not a patterned and systematic translation of the evaluation to teaching activities. Professors that received a bad evaluation internalize reports comments and suggestions in order not to have again a bad evaluation; but this does not mean an improvement in teaching necessarily; rather professors pay attention to what they do, so that students give satisfactory answers in the questionnaires and academic authorities elaborate a positive report in Docentia. The ”satisficing model” is again working.
- Other activities – not necessarily improved teaching activities – have increased following evaluation reports; for example more effort is put into getting certificates of everything done and in the more formal aspects of teaching.

- Professors identify what kind of information is important for academic authorities and made changes in relation only to that information whether that means or not an improvement in their teaching; part of the information of interest to academic authorities has a very weak, if at all, relation with quality teaching. This is true with “coordinating Erasmus programs” or teaching in foreign universities.
- Professors think that some of the activities taken into account for the evaluation require only formal changes not related to teaching improvements; professors have learned to adapt his teaching activities to these, making formal adjustments that make positive evaluation more likely but not necessarily improving their actual teaching or pedagogical skills.

#### **4.5.- Improvement suggestions of the evaluation reports**

- Evaluation reports frequently have attached to them suggestions for improvement, however these are many times difficult to carry out (for example, “give less time to teaching and more to managing students”). Besides there is no follow up of these suggestions and they are left up to the willingness of professors to carry out.
- Timing of evaluation and follow-up of the suggested changes are interrelated. In some of the universities evaluation takes place every 5 years; to plan and do a follow up is in this case rather difficult and in any case not very useful. Besides as already mentioned, institutional follow up is not made in any of the Universities in the research, although it is true that evaluations are kept in data bases so that the accumulation of two or three negative evaluations can give place to a formal attention call by academic authorities.

#### **5.- Is “Docentia” improving quality of teaching?**

These are the firsts concluding remarks in this our first research phase:

1. Most professors recognize that evaluation (evaluation reports, or filling up the self reports, or suggestions received for teaching improvement ) has pushed them to reflect on his teaching, and some times to make changes to improve it.

2. In those universities in which there is a payment associated to the evaluation, Docentia is not making a visible effect in improving the quality of teaching; two possible explanations of this lack of impact are: the fact that money payment is small or that in order to get this bonus some of the data that taken into consideration for the evaluation are not exactly related to teaching quality, like, coordinating Erasmus, or teaching in foreign universities as already mentioned. Professors learned how to modify these requirements that make his evaluation positive, getting therefore the bonus payment, these aspects being unrelated to quality teaching.
3. Are there differences between professors evaluated in Docentia and the rest of professors concerning quality of teaching? As of today, the answer is that there are no differences. It is true that professors evaluated in Docentia filled up self reports and get a Money payment if positively evaluated; professors not evaluated do not get additional payments. But they do receive the results of the students' evaluation surveys and their reactions are similar to that of professors evaluated.
4. There are no differences between professors evaluated and not evaluated but there are differences on the use of the evaluations by status and age. Higher status and older professors are very sceptical with evaluation and are less prone to change and using the evaluation outcomes.
5. Participating in Docentia has meant for the majority of professors a call to show more interest in his teaching activities. But there is a wide heterogeneity in the amount of interest shown: some professors show a strong motivation for improving the quality of his teaching; others show only motivation for formal aspects of teaching. These variations are independent of Docentia.
6. Finally, Docentia has made professors more motivated to do things related to those dimensions that are considered in the evaluation (elaborating teaching material, professor training, innovation groups, virtual teaching, etc.) but this is contaminated by the recent implementation in Spanish Universities of the Higher Education European Space.



## BIBLIOGRAFIA

- Alvira Martín, F. (2004): “Epistemología y metodología de la evaluación”, Congreso Nacional de la FES, Alicante, España.
- Baltasar, A. (2009): “Institutional Design and Utilization of Evaluation: A Contribution to a Theory of Evaluation Influence Based on Swiss Experience” *Evaluation Review*, 33.
- Cummings, R. (2002): “Rethinking evaluation use.” Australasia Evaluation Society International Conference, Oct.-Nov.
- Escudero Escorza, T., Pino Mejías, J. L. y Rodríguez Fernández, C. (2010): “Evaluación del profesorado universitario para incentivos individuales: Revisión metaevaluativa” *Revista de Educación*, 351, Enero-Abril.
- Kelli Johnson, Lija O. Greenesid, Stacie A. Toal, Jean A. King, Frances Lawrenz and Boris Volkov (2009): “Research on Evaluation Use: A Review of the Empirical Literature From 1986 to 2005” *American Journal of Evaluation*, 30.
- Kirkhart, KE (2000): “Reconceptualizing evaluation use: An integrated theory of influence”. In VJ. Caracelli and H. Preskill (eds). The expanding scope of evaluation use, New Directions for evaluation, nº 88, San Francisco, Jossey Bass.
- Patton, MQ. (1997) Utilization focused evaluation, Thousand Oaks, CA. Sage
- \_\_\_\_\_ (1998) “Discovering process use” *Evaluation*, 4(2), 225-233.
- Shadish, W., Cook, T.; y Leviton, L. (1991) Foundations of Program evaluation, Beverly Hill, Sage Pub.
- Weiss, C. (1998) “Have we learned anything new about the use of evaluation?” *American Journal of Evaluation*, 19(1)

**14<sup>th</sup> Toulon-Verona Conference Excellence in Services.  
Alicante 1-3 September 2011**

**An evaluation model for the effectiveness of the General Practitioner (GP) in the  
Italian Health Care System\* .**

**Authors:**

Chiara Ambaglio, Fondazione I.R.C.C.S. Policlinico San Matteo di Pavia - Italy

Laura Bottinelli, Università degli Studi di Pavia – Italy

Enrica Pavione, Università degli Studi dell'Insubria – Italy

**Corresponding Address:**

Dott.ssa Laura Bottinelli, Facoltà di Economia, via San Felice n.5, 27100 Pavia. Mail: lbottinelli@eco.unipv.it

**Abstract**

All the industrialized countries are redefining their welfare systems. One important problem is to fix health care expenditure and to increase the effectiveness and quality of services provided. This aspects have been analyzed only with reference to the specialist services. There is a lack of studies related to the effectiveness of the primary health services.

In the Italian system the general practitioner (GP) plays an important role in defining the health care demand for specialized services. Up to now the activities of the GP are evaluated primarily on the basis of compliance with constraints, determined at regional level, with reference to the specialist services and the pharmaceuticals prescribed. No attention is paid to the quality and effectiveness of the role played.

In this framework, the paper aims to identify innovative indicators for measuring and evaluating the GP's effectiveness. In particular, we intend to correlate the activities of these professionals with the performance required by emergency rooms (Pronto Soccorso).

An evaluation of the performance of the GP can be a valuable support for policy makers, both at a regional and national level, to identify guidelines to contain spending and improve the quality of the health care system as a whole.

---

\* The paper is the result of the joint effort of the Authors who share the common responsibility for the results. Anyhow, paragraphs 1 and 3 can be attributed to Enrica Pavione, paragraphs 2 and 4 to Laura Bottinelli, paragraphs 5 and 6 are attributed jointly to the three Authors.

## Summary

1. Welfare systems reform: how to fix health care expenditure.
2. The Italian Health Care System reform process.
3. The demand governance in the Italian health care system: the gatekeeper role of the GP.
4. GP activities' evaluation models.
5. A model for the effectiveness evaluation of GP's performance: an innovative proposal.
6. Conclusions.

### 1. Welfare systems reform: how to fix health care expenditure.

The welfare state systems of all industrialized countries have been affected, in recent decades, by a profound process of reform<sup>1</sup>. The need to curb spending on social protection on one hand, and the need to meet a growing demand on the other, has placed the need for a rethinking of organizational and implementation models of interventions in social policy<sup>2</sup>. Under this reform process, which affected all countries, but in varying degrees, we can identify some common strategies:

- The decentralization of responsibilities, with regard to provision of welfare services, from the state to local governments, based on the principle of subsidiarity;
- The introduction in the public offering units of management forms (the introduction of charges, more independent decision-making and management processes, imposition of budgetary constraints, etc.).
- The reduction in the coverage of needs, through strategies of rationing (selection of persons entitled to certain benefits, different rates, mechanisms of co-payment, etc.).
- The separation between the financing, which remains predominantly public, and service delivery, instead entrusted to private operators in competition with each other.

---

<sup>1</sup> BERMAN P., *Health Sector Reform in Developing Countries*, Harvard University Press, Boston, 1995.

<sup>2</sup> VELO D., VELO F., *Hospital and Economic Development. Health as a Driver of Development in a Fair Society*, AIOP, Roma, 2008.

The welfare reform process in health systems has been encouraged by some factors which have produced significant increases in health expenditure. This requires a greater focus placed on its control. Among these factors may be remembered primarily the demographic ones, such as the aging of the population, and those of technological nature, related to the improvement of diagnosis and treatment; finally those related to socio-cultural factors, such as the evolution of the concept of health.

The constraints set, at EU level, to the progressive expansion of public spending have required a process to ensure containment within the parameters fixed. With specific reference to health services the main strategies of containment of expenditure followed by the different states often combine two different approaches, not necessarily alternative<sup>3</sup>.

The first refers to the rationing of health services by which is progressively defined the commitment of the public in the delivery and / or the funding of these services and the cost of the services is transferred to the citizen / user. This strategy has, as its goal, a reduction in costs achieved through a reduction of outputs delivered in absence of charge.

The second concerns the process of “managerialization” of the supply units so to ensure a more efficient use of resources and, by this route, a reduction in associated costs. This strategy therefore will not impact on the quality / quantity of outputs delivered, but acts on the inputs, *i.e.* resources absorbed.

## **2. The Italian health care system reform process.**

The Italian health care system was established in 1978 based on the principles of solidarity inspired by the European tradition. The aim is to ensuring universal access to health care services to all citizens free of charge. Since the early nineties, the model has been affected by a profound

---

<sup>3</sup> PELLISERO G. e VELO D., *Competition in Health Systems. In Italy, in the European Union, in the World*, AIOP, Roma, 2002.

process of reform that, in its essential aspects, has introduced changes at the institutional and organizational level<sup>4</sup>.

With reference to the first one, there has been a change in the role of the State from operative subject, responsible of the services delivery, to regulator. The State remains responsible of defining the overall regulatory framework, while the services lending and management are distributed to other institutions, at local level. This lead to the process of progressive regionalization of the system, resulting in the allocation of powers of guidance and control to regions, on the basis of the principle of subsidiarity.

At the organizational level, the main changes introduced by the different designs of reform that have occurred over time, have been in three main directions. The first one is related to the transformation of public delivery units in public companies, with legal personality and organizational, administrative, patrimonial and accounting independence. The second concerned the introduction of a prospective payment system, based on the DRG, for hospitals funding which replaced the old mechanism based on historical spending. Finally, the introduction, under the National Health Service, of competition mechanisms between operators, as consequence both of the changes in the funding mechanism and of the introduction of the accreditation system<sup>5</sup>.

The most recent reform measures are partially overcoming the “managerialization” approach related to the improvement of the efficiency of resource allocation<sup>6</sup>, and are focused on enhancing the level of coordination and continuity of care between different levels of care at local level. This corresponds to an overcoming of the approach centered on the hospital, viewed as the hub of the health services delivery system, and on each health benefit delivered, to an individual-based approach that focuses on the concept of taking care of the patient. For this purpose the cooperation among all operators that, at different levels, contribute to the achievement of the overall course of diagnosis and treatment is essential.

---

<sup>4</sup> BORGONOV E., “Linee evolutive nei trent’anni di Servizio Sanitario Nazionale”, in *Mecosan*, n. 69, 2009, pp. 3-9.

<sup>5</sup> DIRINDIN N., *Cooperazione e competizione nel servizio sanitario*, Il Mulino, Bologna, 2003.

<sup>6</sup> BRUZZI S., *La gestione dell’azienda sanitaria*, Giuffrè, Milano, 2006.

This new approach is implemented mainly through the renewed health district, which from the Finance Act (Legge Finanziaria) of 2001, is assigned by a specific budget. It is this subject that assumes responsibility for the planning and management of all health care services provided in its territorial area of competence. This with the aim of ensuring coordination and collaboration between all actors involved<sup>7</sup>.

The central role assumed by the concept of continuity of care and overall taking care of the patient requires a change in the roles of the different subjects involved. First of all this regard the General Practitioner (GP) who has to play, along with the district, an important role of demand governance by placing the needs of the patient at the center of the whole system.

### **3. The demand governance in the Italian health care system: the gatekeeper role of the GP.**

In all the health systems, based on Beveridge approach, consisting of a national health system, the GP plays a strategic role in defining the demand for specialist health care services<sup>8</sup>. The role of gatekeeper comes from the presence of high information asymmetries, typical of the health care market. In this context we find the presence of two customer: a beneficiary of the health care services and a decision maker. The first is the one who feels the need for health and that appears to be the ultimate beneficiary of the health services. Given the complexity of health needs, the patient is often not able to translate his needs into benefits demand. For this reason it is necessary the support of a subject with the expertise to decide. This role of interpretation and definition of needs is played by the GP.

The relationship between the beneficiary customer and the decision-maker is an agency relationship<sup>9</sup>. The literature identifies in these cases, the presence of two subjects: the principal and the agent. The former requires the latter to carry out, on behalf and for its own account, a specific task because of his better expertise and competences. The agency relationship is

---

<sup>7</sup> CIFALINÒ A. (a cura di), *Il governo dei servizi sanitari territoriali*, Franco Angeli, Milano, 2007.

<sup>8</sup> SCARDIGLI V., "I Mmg e il governo della domanda: professione, rapporto con i pazienti e gatekeeping", in *Mecosan*, n. 65, 2008, pp. 33-55.

<sup>9</sup> BARIGOZZI F., e LEVAGGI R., "New Development in Physician Agency the Role of Patient Information", in *Working Paper*, University of Bologna, September 2005.

characterized by the presence of risks arising from the possibility of opportunistic behavior by both parties, which tend to maximize their personal utility. The literature speaks in these cases of adverse selection, with reference to the stages prior to the report, and moral hazard, with reference to the later stages.

Satisfying the need for health impacts not only on the person who manifests it, but has a wider significance due to the presence of externalities. The status of good or bad health is directly influenced by the level of health of the whole population. This underline the necessity of health care services devoted not just to restore the state of health, but also to all the prevention activities.

Based on the needs expressed by the patient, the GP determines the demand for specialist health care services. This gatekeeper role directly impacts on the ways and models of health care spending control. At this regard, the funding system of general practitioners appears crucial.

The Italian health care system provides today, a financing system based on capitation (quota capitaria). Every GP is paid according to the numerousness of the patient population, weighted by its characteristics. The financing system is therefore completely free from evaluations of the appropriateness of the services provided. This no longer seems fully consistent with the changes in national and regional regulatory framework, that aim to increase the efficiency of the overall system trough forms of demand governance.

The evaluation of the GP is particularly complex because it includes different dimensions: clinical, economical, political and systemic.

A first dimension concerns the clinical sphere and so the concept of appropriateness of services provided. This aspect is more difficult to value because requires specialized expertise and concerns treatment programs that often cannot be completely standardized. This aspect is closely related to the concept of outcome, that represents the result of health care process and restoration of health status. This concept is taken into consideration, together with the output, to improve the effectiveness of the models for the evaluation of health care systems. The output identifies the entire health services provided in a given period of time. In theory there should be a cause-effect relation between output and outcome. Practice often shows different situations related to the

complexity and specificity of individual clinical cases. The outcome is difficult to evaluate for at least three reasons: it often derives from a variety of output (benefits), delivered at different times and under different conditions; it could be evaluated over a period of medium-long term; it produces externalities.

The second dimension is related to the economic activities carried out by GP and it is linked to the need to rationalize resources. In the present context, in which health care expenditure containment is a priority for all developed countries, this element is particularly important, although it needs to be always combined with other dimensions. In order to improve resource allocation and the level of economic efficiency of the GP different measures can be proposed: the unsatisfied needs, ineffective actions, inefficient actions and inappropriate actions.

The political dimension is directly linked to the value of pure public good that characterizes the need for health. All the processes of reform and redesign of health care systems must take into consideration the particular nature of the needs met by them and their collective value.

The final dimension is the systemic one, that today assumes particular importance in the light of the integration process between the different actors of the health care system to which recent reforms have given particular importance.

#### **4. GP activities' evaluation models.**

The reform process that is affecting the Italian health care system presents as central element the valorization of the efficiency of services provided, considered as tool to encourage a better use of resources. Up to now such initiatives have focused exclusively on hospital services and benefits of specialized nature. In this sense, the introduction of a prospective payment systems to provide funding, which has been introduced since the early nineties, and the process of “managerialization” of health care facilities are the main changes.

Concerning the primary care provided by the GP is widely believed that they do not reflect the performance criteria that have been set for hospitals. The reasons are mainly related, as



mentioned previously, to the lack of an incentive funding system, which rewards the efficient behaviors, and to the lack of methods for effective evaluation of the GP performance.

The current system of weighted capitation funding releases totally the work of GP by economic evaluations, related to the cost of services required. This does not necessarily imply that the mechanism will result in a structural lack of rationality in the allocation of resources. For these reasons it is of fundamental importance to connect the actual funding system with incentive mechanisms, based on the evaluation of performance<sup>10</sup>.

Up to now, the main control instrument, that is applied to the GP work, is the limit on drug prescriptions. The implementation of this instrument is responsibility of the different ASL (Azienda Sanitaria Locale). Each territorial unit identify an annual limit for different drugs classes, detailed for each GP working in the area taking into account the composition of his population. Periodically the ASL informs GPs of the prescriptions trend and any deviations from the fixed limit. For the prescriptions that, at the end of the period, exceed the limit set by the ASL, the GP is required to submit a scientific report justifying the appropriateness of his actions. In the case that the ASL considers the report not adequate, the GP is required to pay out of his pocket for the prescriptions in excess. The appropriateness of prescriptions is evaluated only on the basis of the therapeutic indications approved by the competent Authority, for each drug. This mechanism is, in many cases, too simplified and it does not meet the most advanced treatment programs.

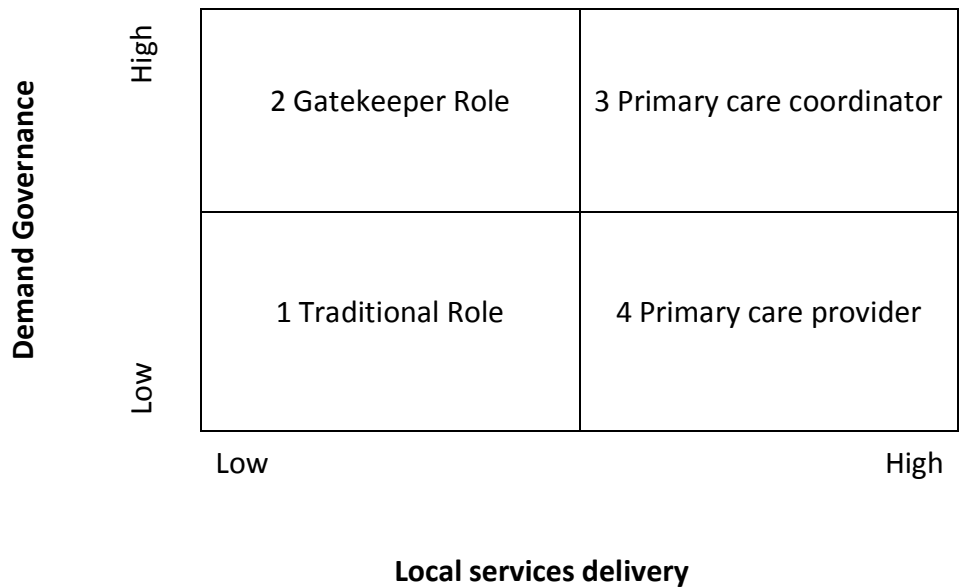
In this context it is necessary to identify innovative tools and models, able to stimulate a redefinition of the role assigned to the GP. To understand the different evolution trend the following matrix is proposed. The variables taken into consideration are: the attention paid on the delivery of local services and the attention on the demand governance (Figure 1)<sup>11</sup>. The four quadrants identify different meanings, responsibilities and tasks assigned to the GP.

---

<sup>10</sup> VENDRAMINI E., "Misurare le performance nelle cure primarie: un approccio metodologico", in *Mecosan*, n. 61, 2007, pp. 125-138.

<sup>11</sup> ANESSI PESSINA E. e CANTÙ E. (a cura di), *L'aziendalizzazione della sanità in Italia*, Egea, Milano, 2005.

**Figure 1. GP's role evolution**



Quadrant 1 identifies the traditional concept of GP, seen as a professional who works for the only purpose of protecting the health of its clients. In this case no responsibility concerning control of health expenditure are assigned to the GP. The control refers both to the expense directly decided by the GP and the one derived by the interaction with other operators of the national health system. It is the typical profile identified by the law establishing the National Health System.

Quadrant 2 identifies the concept of GP as a gatekeeper, seen as an operator integrated in a complex delivery system. This acceptance gives to the GP greater responsibility in the demand governance. This is the profile that the regulatory interventions of recent decades have introduced in the Italian system.

The ongoing debate on the need to redefine the role of the GP is shaping two different evolutionary profiles that match the right quadrants of the matrix. Quadrant 3 describes a role of primary care coordinator in which the traditional benefits are complemented with specialized ones in order to define a complex figure of GP, which provides a wide range of health services. This evolution trend appears to be more viable in the case of forms of association between GPs, provided even by Italian legislation. Quadrant 4 identifies the role of primary care provider who is always characterized by the expansion of services provided, but with less emphasis placed on

demand governance. This activity remains to the ASL, while the GP is required to act in closer integration with the other actors of the system.

It does not seem possible today to identify what is the evolution path of the GP role in the Italian health system, given the differences in regional policy that are emerging. A common feature appears to be a critical extension of the range and complexity of services provided that makes the GP the element of connection between citizens and the health care system. This change in the GP role should include an increased the GP participation level to the definition of strategies developed by local health authorities and districts.

Given the critical role played by GP, which will increase further in the near future, it seems to be useful to identify tools that can help to directly measure his effectiveness. Instruments that seek to achieve this goal are already defined today, in the Italian system, with reference to the specialist services provided by hospitals.

## **5. A model for the effectiveness evaluation of GP's performance: an innovative proposal.**

In the Italian system the patient, for the satisfaction of their own health needs, is required to apply to the GP, with the only exception of the cases of emergency / urgency. The purpose is that the GP, as gatekeeper, could translate the needs expressed by the patient into hospital and / or specialist services. Any request for the satisfaction of health needs to other professionals may be considered as an anomaly of the delivery system of primary care<sup>12</sup>. Anomaly that can be considered as an indicator of the level of GP performance.

To identify these anomalous events in the mechanism of health care services delivery, the model proposed in this paper take into consideration the non-urgent access registered by Emergency Room (Pronto Soccorso) units. The introduction in the Italian system of the triage process assigns

---

<sup>12</sup> Hospital and specialist services are all those health services provided under the national health service as a gratuity, with exception of forms of co-planned spending defined on a regional basis. Therefore, the benefits provided by private and paid fully by the user are not covered in the series considered.

to each patient an identification code according to the severity of its clinical status. The attribution of the code is made by the staff responsible for reception, typically nurses.

The red code is the greater level of urgency and is assigned to patients in imminent danger of death; these patients present the risk of failure of one of the three vital signs: circulatory system, respiratory system, state of consciousness.

The yellow code represents an intermediate level of severity and is associated to patients in potentially life threatening, in which there is the threat of failure of one of the vital functions. For these patients access to visit rooms, consistent with other urgent / emergency ongoing, is almost immediately. The average waiting time should not exceed 15 minutes. It is required a reevaluation of these patients after 5-15 minutes.

The green code is assigned to patients who need a medical service which may be deferred, because they don't present any compromise of vital signs. Such patients are examined after the red and yellow code. The patient should be reassessed every 30-60 minutes.

Finally, the white code is given to patients requiring health services which do not present any urgency and should be delivered by the GP. For such patients are usually provided alternative routes to the ER and are therefore viewed after all other codes. Many Italian regions foreseen cost sharing arrangements for these services.

As can be seen from the definition of white code provided by the Ministry of Health, all the anomalies of primary care delivery system, to which we have referred above, are included in this series. An analysis of the impact of these cases can therefore help to highlight the existence of different levels of effectiveness in the operation of GP operating in the same area of impact of the ER. Moreover, because the ER acceptance form, presents a numeric code that identifies the GP associated with each patient, it is possible to identify and analyze situations of unhomogeneity on the same territory.

Generally several reasons that push an individual to go to a ER unit in case of no urgency can be identified. In particular, it is possible to identify three main causes of distortion<sup>13</sup>.

The first refers to the difficulty of self-diagnosis and therefore the inability to appropriately evaluate the subject's own health status and so perceive as urgent benefits that otherwise can be deferred over time. This case is closely interrelated with the concept of information asymmetry, which has already been mentioned above.

The second cause is due to better professionalism and completeness of assistance that the individual recognizes to ER units. This cause is linked both to a greater trust assigned to the ER units, resulting from past experience or word of mouth, and to the desire to accelerate the care process, by obtaining immediate specialized services.

The latest case is linked to difficulty access to primary care services, or a lack of confidence in the professionalism of the GP. It is this motivation that can be especially useful to investigate so to determine an evaluation of the effectiveness of the GP work.

From these considerations, the methodology of analysis that the Authors want to propose in this paper consists of two phases, closely interrelated. The first stage is dedicated to collect data on white code cases supplied by ER units in the same operating area. From the medical record will be extracted the GP code, in order to associate each case to the responsible decision maker, and the professional qualification of the operator who has conducted the triage. This is to prevent possible effects of distortion generated by the diversity of professional qualification that sometimes characterizes this figure.

This first step allows to highlight, first of all the impact of white codes on total benefits delivered by ER units in order to calculate their impact. Furthermore, by encoding the GP, it is possible to identify anomalous situations and significant deviations from the average over the area taken into consideration. After the identification of such deviations, the second step of the research aims to investigate their possible causes.

---

<sup>13</sup> MENGONI A. e RAPPINI V., "La domanda non urgente al Pronto Soccorso: un'analisi", in *Mecosan*, Vol. 62, 2007, pp.61-82.

To this purpose, the methodological model proposed in this paper is devoted to the definition and provision of a questionnaire to all patients identified with white code by ER units. The questionnaire is distributed to patients by the triage personnel at the end of data collection, that is, once the encoding is assigned. The questionnaire will consist of closed questions to facilitate the speed of compilation by the user. The purpose of the questions is to retrace the reasons for incorrect access ER units to one of the three cases mentioned above.

The processing of data obtained by the questionnaires will help to understand the impact of lack of trust in primary care system on the overall non-urgent access to ER units. It will be possible to identify anomalous and unhomogeneous situations; this could be the base for corrective action taken by local health care authorities.

## **6. Conclusions.**

The most recent reforms that have affected the Italian health system assigned to the GP a renewed role in the territorial health care system. This implies an increase in the responsibility assigned to this subject and requires a more significant contribution in the planning and control of health care supply. This change in the professional profile of the GP makes necessary to introduce mechanisms for monitoring and evaluation of the activities of these subjects.

The methodology proposed in this paper is innovative and aims to contribute to the debate, currently underway at the national level, on new model of stimulation for GP effectiveness. The control mechanisms that currently exist appear weak and not consistent with the concept of overall patient care that must drive the work of the GP.

The effectiveness of the work of the GP in the proposed methodology is measured as the ability to ensure compliance with care pathways, that required the GP as gatekeeper for access to all non-emergency services. For this reason the methodology focuses on non-emergency services provided by ER units that are an indicator of this anomaly.

The development of a sample survey, based on the approach proposed, will enable to validate this assessment model that will therefore become a tool to support the local health authorities with the aim of improving the overall effectiveness of the delivery system.

## References

- ANESSI PESSINA E. e CANTÙ E. (a cura di), *L'aziendalizzazione della sanità in Italia*, Egea, Milano, 2005.
- BARIGOZZI F., e LEVAGGI R., "New Development in Physician Agency the Role of Patient Information", in *Working Paper*, University of Bologna, September 2005.
- BERMAN P., *Health Sector Reform in Developing Countries*, Harvard University Press, Boston, 1995.
- BORGONOVÌ E., "Linee evolutive nei trent'anni di Servizio Sanitario Nazionale", in *Mecosan*, n. 69, 2009, pp. 3-9.
- BRUZZI S., *La gestione dell'azienda sanitaria*, Giuffrè, Milano, 2006.
- CIFALINÒ A. (a cura di), *Il governo dei servizi sanitari territoriali*, Franco Angeli, Milano, 2007.
- DIRINDIN N., *Cooperazione e competizione nel servizio sanitario*, Il Mulino, Bologna, 2003.
- MENGONI A. e RAPPINI V., "La domanda non urgente al Pronto Soccorso: un'analisi", in *Mecosan*, Vol. 62, 2007, pp.61-82.
- PELLISERO G. e VELO D., *Competition in Health Systems. In Italy, in the European Union, in the World*, AIOP, Roma, 2002.
- SCARDIGLI V., "I Mmg e il governo della domanda: professione, rapporto con i pazienti e gatekeeping", in *Mecosan*, n. 65, 2008, pp. 33-55.
- VELO D., VELO F., *Hospital and Economic Development. Health as a Driver of Development in a Fair Society*, AIOP, Roma, 2008.
- VENDRAMINI E., "Misurare le performance nelle cure primarie: un approccio metodologico", in *Mecosan*, n. 61, 2007, pp. 125-138.



# 14<sup>th</sup> Toulon-Verona Conference

1-3 September 2011

University of Alicante, Spain

## The supplier's contribution to the value co-creation process and the effect on business value

Antonella Angelini – Assistant Professor of Management

Faculty of Economics of Pisa University – e-mail: [angelini@ec.unipi.it](mailto:angelini@ec.unipi.it)

In accordance with a service logic view, value is created and delivered by the suppliers during usage in the customer's process of value creation. This means that the value co-creation opportunities require *interactions* between the supplier and the customer that must be well connected and coordinated in order to achieve an integrated process of *joint value creation*. The moments of interaction must be carefully selected and coordinated in order to generate value through the achievement of high levels of customer satisfaction and loyalty. This interaction can therefore be a source of value but at the same time, if mishandled, it can cause destruction of value for both the parties involved, emphasizing the content of all the moments of interaction.

The purpose of this paper is to consider the role of the supplier in the process of value creation by highlighting the areas where his/her contribution may have greater impact on customer satisfaction and loyalty, generating a positive (or negative) effect on customer value and, eventually, on the business value. A model will be presented which will explain the main variables involved in the process of generating value for the company through good relations with customers and, in general, with the various stakeholders, and the connections between them.

### Introduction

The objective of value growth over time for companies represents a goal towards which they tend. An improvement of the relation with the client constitutes an important lever upon which important value effects can act, especially in the services sector. As noted, relationship and relationship marketing have roots in service marketing and B2B marketing (Ballantyne et al., 2003; Gronroos, 2000; Mattsson, 1997) which developed, perhaps not coincidentally, but concomitantly (Vargo S.L., 2009).

Through improved relations between company and client it is, in effect, possible to try to increase the entity and the duration of cash flow prospectives as a consequence of the highest satisfaction and trust levels reached; with consequent elevation of the company's value.

The adoption of the activity of Relationship Marketing offers itself therefore also as a value objective activity in that besides definitions focussed on interaction, network and relations (Berry, 1983, Morgan and Hunt, 1994, Gummesson, 1994, Gummesson, 2004) others are formulated where there have been explicit (and specific) objectives of performance. Among these we report the following:

- ✓ Relationship marketing is the process of identifying, developing, maintaining and terminating relational exchanges with the purpose of enhancing performance (Palmatier, 2008, p.5).
- ✓ Relationship marketing is the process of co-operating with customers to improve marketing productivity through efficiency and effectiveness (Parvatiyar 1996, cited in Mattsson, 1997, p. 449).

Thus activities aimed at improving relations between the company and its clients are set as value objectives in that they pass through the bi-directional relation between company and clients, which is based more and

more on trust and personalisation of an offer achieved, thanks also to a better awareness of habits, preferences and tastes of the clients and which are acquired more and more via the adoption of Customer Relationship Management (Angelini, 2007).

### **The determinants of company value and its connection to company-client interaction**

As said above improvement of client relations have implications of value. This clearly emerges if we consider the financial methods of company value determination which come from esteem of the company through the effecting of a summation of future cash flows that the company will be able to achieve in the future; which are opportunely rendered up to date (Guatri L., 1990, p. 235). Later it is considered as the financial method in the version proposed by A. Rappaport and was denominated 'Unlevered DCF Analysis.' These calculations utilise the expected cash flow value and are calculated in the following way:

*Fct = Profit before interests and taxes (EBIT)\* (1 - direct tax rate) + amortization and other deferred costs – fixed investments – net working capital*

Once such flows are calculated one proceeds to calculation of company investment value via the following:

$$\text{Investment value (I)} = \sum_{1}^{n} \text{CF}_t * v^t + V_F * v^n$$

With:

$v^t$  = coefficient of actualisation. The discount rate used for actualisation of flow is generally the average cost weighed of capital (WACC).

$V_F$  = final value obtained, in general considered to be the average unlevered income of the last 2-3 years of the projection period.

The following calculates the company value by subtracting the net passivity import form the investment value.

Therefore:

**Company capital value (W) = I – net passivity**

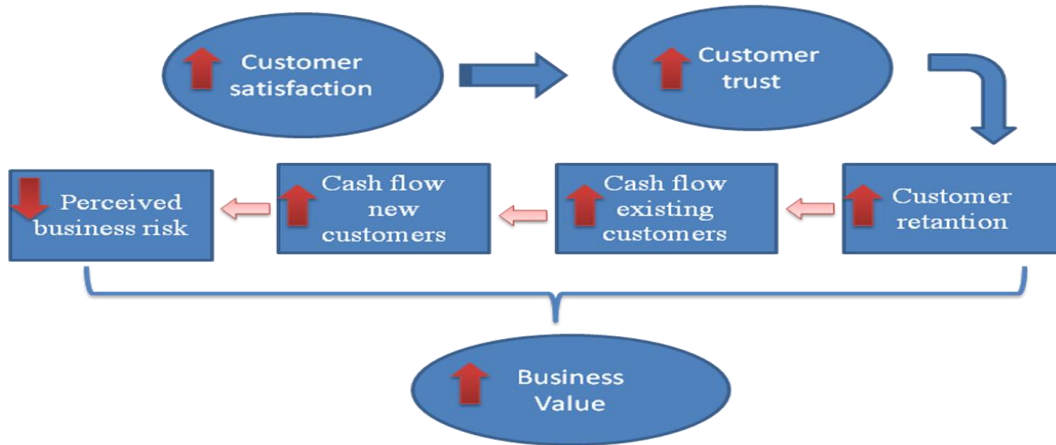
With:

Net passivity = onerous debts – credits generating active interest

From what is said it is possible to find elements at the basis of company value which are the cash flow perspectives, the discount rate connected to the risk profile of company activity, the financing choices carried out by the company and the net passivity value.

Improvement of client relations, a product of the implementation of Relationship Management activity, is inserted into such an evaluation context with the aim of including the full strategic valence within it. In the prospect of the customer-based view, relations with clients do in fact influence company value factors and they determine the satisfaction of those who have financed the company (see Fig. 1) with advantages for all the actors involved.

**Fig. 1 – Relation between company value and its factors in customer-based perspectives.**



**Source: Our elaboration**

Indeed, service systems include firms, customers, suppliers, employees and all other partners in a firm's network (Lusch and Vargo, 2006b; Spohrer et. al., 2007). All these actors are committed to creating value for themselves and for others with whom they come into contact (Vargo et al., 2008). This is an important characteristic of service-dominant logic, i.e. the context of value creation is networks of network (Vargo S.L: 2009). Gummesson speaks about 'many-to-many marketing' (e.g. Gummesson, 2006).

The above underlines the importance of selecting and monitoring the parties involved in these interactional processes because their activity, if carried out incorrectly, can destroy value instead of generating it (Piè and Càceres, 2009). In fact, within SD logic it is held that the value-in-use is generated by a 'collaborative process of co-creation between parties' (Vargo and Luch, 2008b, p. 256). This situation is recognised in the case whereby all the actors involved operate in a correct and synergetic manner; but if this does not happen the value could be penalised (for the company, the client or for both). In this situation one should delineate a co-destruction value system which represents a concept in opposition to 'value-in-use' (Piè and Càceres, 2009) and can be connected to accidental or intentional misuse of resources.

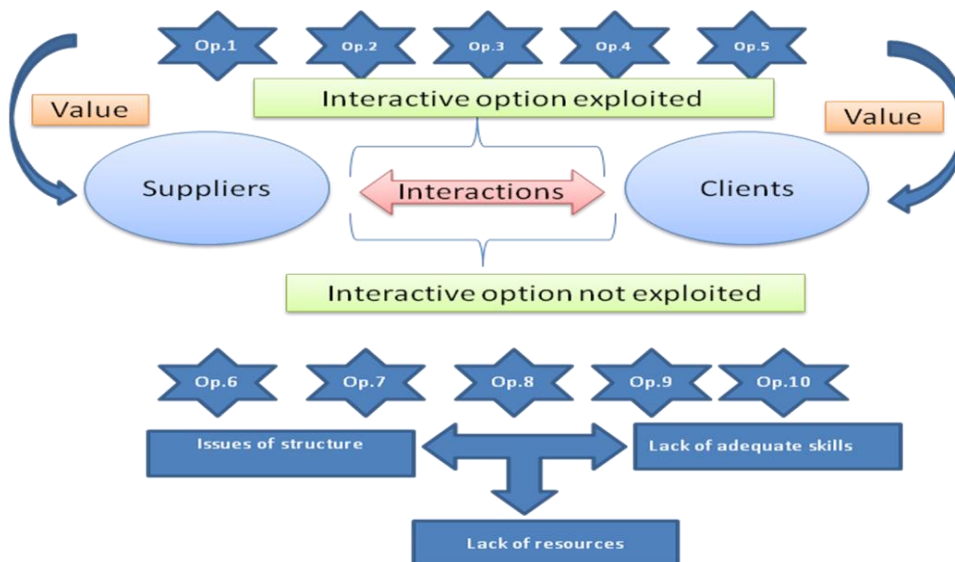
**The options of value in the Service Dominant Logic**

In 'the service logic', the enterprise offering value proposition and the value creators are the customers. This does not mean that the activity of service suppliers cannot influence the customers' process of value creation. This happens when the processes of the parts involved enter into contact, or during moments of interaction. During service-based interactions the suppliers can actively contribute to the customers' experiences and value fulfilment .... and have the opportunity to become a co-creator in the customer's process of value creation (Gronroos C., 2011). It comes thus to delineate an integrated process of value creation; and within this integrated process the suppliers can cover an active role and not be subordinate to the role of their client, with the aim of value generation.

Therefore, adopting a service logic and creating interactions with the customer, the suppliers can extend their role, not only by becoming value facilitators, but also by offering value creation; the suppliers become co-creators of value with their customers (Gronroos C., 2008, Payne A.F., Storbacka K., Frow P., 2008). This interaction becomes, therefore, a source of value opportunities; and on the whole such moments of interaction can be considered as being true value options to be practised if they are able to positively

influence the value obtained by both parties (suppliers and clients) (fig. 2.)

**Fig. 2 – The moments of interactions as options of value**



**Source: Our elaboration**

With this interaction it is thus possible to generate a value that can be summed up as being the 'base value' generated within each process considered apart (that of the supplier and of the client). Bearing this in mind, it is essential for the suppliers to seek out, select and manage the moments of interaction regarding the customer so as to release the potential inherent value lying in such activities. The opportunities of interaction are multiple. Some of these belong to the 'core' services; not constituting enrichment and often the result of an effort of personalisation in the offer. Thus they are true options. (1)

These last are convenient, theoretically speaking, if the increase in revenue (consequent of practice of this option) is superior to the increase of costs, including those relating to eventual investments to be transacted so the option may be applied itself. (2)

Take, for example, a hotel that is evaluating the idea of setting up and managing a bar next to its swimming pool. Management of such a new business, which develops new occasions of contact and interaction between company and clients, will produce an increasing cash flow which will be added to that of the pre-existing business which would also be able to be subject to an increase thanks to a raise in the overall satisfaction level of the clientele thus generating positive effects on the trust scale and on the degree of new clientele attractability.

This example highlights how the starting out of a new service aimed at enriching, personalising and improving an offer can be pictured as a generating value option; and the ability of managing the relation represents 'the shuttlecock' of such a value. In parity with monetary outlay the level of income will in fact be conditioned by the ability of managing relations with clients, thus allowing the personal importance of the contract to emerge. This will have to be capable of modifying (in part) the contents of relations based on the typology of the clients served, with the aim of adapting to the specific necessities of the various segments of clients who will make use of the service.

Moreover, with a correct interaction between firm and customer the offer can be adapted and personalised in order to maximise satisfaction and loyalty, starting the 'word of mouth' phenomenon and generating value

effects.

The example described above allows us, furthermore, to emphasise certain principle characteristics of the 'dominant logic service' and the implications of entrepreneurship (Tab.1).

**Tab. 1 Principle implications of Service Dominant Logic for entrepreneurship**

<b>Good dominant logic*</b>	<b>Service dominant logic*</b>	<b>Implications for entrepreneurship**</b>
Goods	Services	In order to create value for the firm and the customer the focus is on customer benefit rather than product features
Tangible	Intangible	The business proposition is based on customer solution and meaning rather than physical good
Standardization***	Personalization***	With a correct interaction between firm and customer the offer can be adapted and personalized in order to maximize satisfaction and loyalty, starting the word of mouth phenomenon
Value added	Value proposition	The customer is an integral part of opportunity discovery and assessment. The value is co-created with the customer.
Propaganda	Conversation	The company due to adopt a bi-directional communication with the various stakeholders
Transactional	Relational	Firm and customer engage in a symbiotic and durable exchange relationship. Systems of Customer Relationship management are required and used in a strategic way
Operand resources	Operant resources	The attention is on dynamic knowledge resources that transform rather than static resources that require action to create value
Retention***	Loyalty***	The aim is to increase customer loyalty through the transition from behavioral loyalty to satisfaction, trust and cognitive loyalty.
Profit	Business value	If the business value increased it means that the customer is getting what he wants and needs

\*Kasouf J.C., Darroch J., Hultman M.C., Miles P.M, (2008) adapted from Lusch et al.(2006)

\*\*Kasouf J.C., Darroch J., Hultman M.C., Miles P.M, (2008) adapted from Shane and Venkataraman (2000)

\*\*\*Our consideration

The final objective searched for by companies which adopt such 'logic' is one which positively affects business value via the determinants of value: prospective cash flow and discount rates. The activities of relational marketing and management of company-client interaction, while being able to generate effects upon both such parameters, become strategic activities demanding that management (on behalf of the company) has an increasing use of operant resources and I.T.solutions (internet) thus, allowing for interaction between company and client which are opportune, effective and personalised.

### **Baglioni Hotels Group**

The Baglioni Hotels Group was established at Punta Ala in Tuscany (with the Hotel Cala del Porto) and today it represents a 5 star hotel chain with 10 structures in Italy, France and Great Britain with a turnover of around 48 mln euro. In 2012 it plans to open a new hotel in Marrkech in collaboration with prestigious international partners (Jade Jagger for Yoo, Six Senses spa, Ajensa).

The philosophy of Baglioni Hotels is summed up in their slogan “**Luxury with an Italian touch**”. The Luxury that is described in the offer presents, in fact, a strong Italian character and this is recognised in the various aspects that make up the offer itself like the location (where the Hotel is situated), all the structures boasting high levels of historical value, art, music, fashion, design and eno-gastronomic traditions.

In 2004 the Hotel in London was inaugurated and with this inauguration its brand image was updated by proposing a less formal idea of elegance and reception so as to give space to a conception of **contemporary luxury** aimed at a public more aware of the new trends.

Still regarding the 2004 opening the **Brunello Lounge & Restaurant** was inaugurated inside the Baglioni Hotel in London. It represents an innovative proposal for catering founded on the principle of **Mediterranean cuisine** and is presented in an original way by esteemed Italian chefs (3). The aim is to add a new and exclusive catering service distinguished by its unique Italian style to the hotel's hospitality and service.

At every destination Baglioni Hotels offer certain specific initiatives aimed at making their guests discover and 'live' their stay through activities connected to the territory. This represents an effort at differentiation and personalisation of service which is shown to be particularly appreciated by their guests and which has generated appreciable effects regarding loyalty and 'word of mouth' advertising.

Passion, research, attention to details and quality of continuous personalised service represents the feather in the cap of the Baglioni brand. Roberto Polito, President of the Group, as well as its founder, summed up in this phrase the essence of what Baglioni offers: *“Our hotels are like our homes, elegant and discrete but also open and alive created by people who together look for an experience for which it is worth travelling a long way for arrival there.”*

### **Strategic management interaction in the Baglioni Hotels**

Inside the Baglioni Hotels one finds a developed conception of hospitality based on style and on typically Italian values; and, as said above, its locations all boast great historic value and prestige which aims to emphasise the luxurious made-in Italy style.

During their stay guests are at the centre of all of the Hotel staff's attention, both discretely and professionally. Their service is the most personalised in catering to their guests' individual needs.

With the objective of identifying such specific demands, at times not expressed by guests but is latently present, the role of the **porter** has an absolute critical role. The latter, in fact, must be capable of understanding clients' demands; at times also through simple observation of the guests' behaviour so as to provide satisfaction for their needs; often by involving subjects external to the organisation for collaboration. This demands, on behalf of the porter, an in-depth awareness of the territory and subjects/situations present on the territory itself with the aim of opportunely involving what, at times, is necessary for succeeding in better satisfying their needs.

The above represents a modality of adaptation/enrichment of service that follows a 'bottom up' procedure. The origin of the change originates, in other words, from the same clients who are spokespersons for new demands to which the company provides, while often utilising innovative solutions which have never been experimented before. The relevance of such an informative source is elevated since it represents a modality of change based on the 'voice of the client' and therefore of secure interest and enjoyment on the part of the client. In order to listen to and 'exploit' such a voice, 3-4 times a year meetings are organised with company managers, head porters and reception personnel to discuss eventual new requests regarding internal services expressed by the guests; or new visits requested at certain places of the territory (e.g. the workshops of local craftsmen) with the aim of being eventually able to plan an enrichment of the structured and programmed services offered.

The clients' informative sources carry over, obviously to those relating to tourism magazines and specifically related studies commissioned by companies in this field, with the aim of identifying new trends and travel

fashions. All this informative input is essential for defining the following specifics:

- The offers and any modifications necessary to them for meeting the new present trends.
- Activity development policies; among which includes the openings of new Hotels in areas of interest.
- Communication policies; in particular those relating to contents of news letters and Internet sites.

As said above the Baglioni Hotels have as their mission the wish to let their guests have a unique experience in the territory the Hotel is placed and to allow them to maximise the value of their stay. This has induced the company to create on the Internet site of the various chain of hotels a section dedicated to the city where the hotel is situated and where guests can acquire useful information on details of the various places to visit; from the more classical places reported in all the tourist pamphlets to those less well known but more 'authentic' and which allow guests to better discover the traditions of the place. This section has been very successful for clients and has had significant positive effects on the degree of customer retention and 'word of mouth' advertising.

The ability of entertaining (with one's client) a rapport which is judged to be contemporaneously professional, cordial and involved represents, for Baglioni Hotels, a central aspect for reaching elevated levels of client satisfaction. With such an aim, as well as careful selection of the hotel staff, cultural training courses are regularly organised with the employees of various hotels taking part. In these courses behaviour diversity of people from diverse cultures is confronted with the aim of letting staff interact in a differential way with their guests while respecting their traditions and customs.

Relations with clients can take place not only within the hotel structure but also on internet with the sending of news letters and/or e-mails. Interaction moments between company and client may, in other words, anticipate the direct contact between the parties within the structure of the supplier; or contact can take place away from this through using technology (Angelini, 2010). Regarding this latter point, in order to be different from their competitors and to enjoy effective and 'fun' communication with their clients, Baglioni Hotels have been running 'creative writing courses'. These were followed by employees from their sales and marketing departments. Also in this case the results obtained were judged as being satisfactory.

### **Conclusions and directions for future research**

Moments of interaction between company and client represent potential option values for both parties. Therefore the setting up of new occasions of interaction, or the improvement of these, can be seen as a direct activity in exercising options capable of having an effect on 'value-in-use'; and, generally on business value. Managers and academics must therefore consider company-client interaction not only as an essential element of the company offer which adopts a 'S-D logic' but also as possible occasions of improvement of the company's value. This is also thanks to a raising of the degree of client satisfaction and the improvement of the company image – the product of the 'word-of-mouth' phenomenon which begins to come into play and 'feed itself' until it reaches high levels of satisfaction performance. Such results, furthermore, represent an important 'cog' within the dynamic model of customer loyalty (Costabile et al., 2004) since they take into consideration and elaborate upon the various cognitive states of clients over the course of their rapport with the company. Within such a model, loyalty represents the goal towards which this model tends; and which is reached by passing through elements of satisfaction, trust, faith and honesty.

The case of the Baglioni Hotel chain has allowed us to highlight how maintenance and improvement of this rapport is considered to be a competitive tool of particular importance for reaching objectives of value. The adoption of differentiation policies of offers, thanks to information obtained from clients via correct use of company-client interaction has provided a clear result that has allowed the company to achieve a growing performance rate and to design effective development policies.

Improvement of 'relations content' is put into effect thanks also to continuous investment into human resources; in particular those in direct contact with the clients. In this way, in fact, it is possible to 'release' the value gap connected to the correct application of the 'interaction' option, and to base one's own competitive advantage on invisible assets; or on firm specific resources which are difficult to acquire from competitors, thus making such advantage acquire the characteristic of durability.

## References

- Angelini A. (2007), Valorising customer relations through CRM systems. The Gruppo Ventaglio case, 10<sup>th</sup> Toulon – Verona Conference, University of Thessaloniki – Greece, 3-4 September.
- Angelini A. (2010), Create value by the interaction between company and customer, 13<sup>th</sup> Toulon – Verona Conference, University of Coimbra – Portugal, 2-4 September 2010, pp.617-629.
- Berry, L.L. (1983), “Relationship Marketing” in Berry L.L., Shostack, G.L. and Upah, G.(Eds), *Emerging Perspectives on Services Marketing*, American Marketing Association, Chicago, IL, pp.25-6
- Ballantyne, D., Christopher, M. and Payne, A. (2003), “Relationship marketing: looking back, looking forward”, *Marketing Theory*, Vol. 3 No.1, pp.159-66
- Brealey R.A., Myers S.C., Allen F. (2006) *Principles of corporate finance*, McGraw-Hill/Irwin, New York, 8.ed.
- Grönroos C., (2000), *Service Management and Marketing: A Customer Relationship Management Approach*, John Wiley & Sons, Chichester.
- Grönroos C. (2008), Service logic revisited: who creates value? And who co-creates?, *European Business Review*, vol.20, n.4, pp.298-314.
- Grönroos C., Ravald A., (2011), Service as business logic: implications for value creation and marketing, *Journal of Service Management*, Vol.22 N.1, pp.5-22.
- Guatri L. (1990), *La valutazione della aziende. Teoria e pratica a confronto*, EGEA, Milano.
- Gummesson, E. (1994), “Broadening and specifying relationship marketing”, *Australasian Marketing Journal*, Vol.2 No1, pp.31-43
- Gummesson, E. (2004), “Return on relationships (ROR): the value of relationship marketing and CRM in business-to-business contexts”, *Journal of Business & Industrial Marketing*, Vol.19 No.2, p.136
- Gummesson, E. (2006), “Many to many marketing as grand theory”, in Lusch, R.F. and Vargo, S.L. (Eds), *The Service-Dominant Logic of Marketing: Dialog, Debate, and Directions*, M.E. Sharpe, Armonk, NY, pp.339-53.
- Lusch, R.F. and Vargo, S.L., (2006b) “Service-dominant logic as a foundation for a general theory”, in Lusch, R.F. and Vargo, S.L., (Eds), *The Service-dominant logic of Marketing: Dialog, Debate and Directions*, M.E. Sharpe, Armonk, New York, NY, pp.406-420.
- Mattsson L.G.,(1997), “Relationship marketing and the ‘markets-as-networks approach’- a comparative analysis of two evolving streams of research” *Journal of Marketing Management*, Vol.13, pp.447-61.
- Morgan, R.M. and Hunt, S.D. (1994), “The commitment trust theory of relationship marketing” *Journal of Marketing*, Vol.58, July, pp.20-38.
- Payne A.F., Storbacka K., Frow P. (2008) *Managing the co-creation value*, *Journal of the Academy of Marketing Science*, Vol.36, N.1, pp.83-96.
- Palmatier, R.W. (2008), *Relationship Marketing*, Marketing Science Institute, Cambridge, MA.
- Plè L. and Càceres R.C. (2009), Not always co-creation: introducing interactional co-destruction of value in service-dominant logic.
- Rappaport A. (1979), Strategic Analysis for more profitable acquisitions, *Harvard Business Review*, July-August
- Spohrer, J., Maglio, P.P. Bailey, J and Gruhl, D. (2007), “Steps towards a science of service systems”, *Computer*, Vol.40, pp.71-77.
- Vargo S.L, (2009), Toward a transcending conceptualization of relationship: a service-dominant logic perspective, *Journal of Business & Industrial Marketing*, pp.373-379.
- [http://www.baglionihotels.com/uploads/11159\\_BH\\_company\\_profile\\_IT.pdf](http://www.baglionihotels.com/uploads/11159_BH_company_profile_IT.pdf)



## Notes

1. The starting up of new occasions of interaction is pictured, therefore, as an expansion option. As well as this situation others could be recognised as being ascribable to the logic of options like the interruption of no-longer-convenient interaction occasions which demand the logic of abandonment option; or the modification of already existing interaction occasions near to the logic of the option of conversion.
2. If we consider the impact of value connected to application of the options, then the above mentioned revenue and outlay are monetary. It is possible, nonetheless, to approach this theme from a more general angle by allowing both monetary and non-monetary elements to be included in the revenue and outlay (expenditure).
3. A true 'atelier' of high culinary creativity. The ingredients of superior quality are selected with great care for menus presented as though they were works of art. Their contents surprise with unexpected explosions of taste. Everything is seasoned in an ambience of contemporary design and researched detail and service; in a warm and welcoming atmosphere. Brunello Lounge & Restaurant Bar is a bar, is a lounge and is a restaurant. It is a versatile and '*polysensorial*' space wherein gastronomic experience and the art of good living intermingle.

# VALUE CO-CREATION THROUGH MULTICHANNELS DISTRIBUTIONS: THE NIKE ID CASE

**E. Angioni<sup>1</sup>, F. Cabiddu<sup>2</sup> and M.C. Di Guardo<sup>3</sup>**

**Abstract.** The Information Technology (IT) development, in the recent years, deeply changed the relationship between firm and customer, leading to an important shift in their respective roles. Nowadays, the customer has to be seen as a key player of this relationship, carrying out an active and important contribution in the phase of product development. Despite a growing interest for this topic, the importance of how and why some specific organizations seem to be better at executing channel interactions and co-create value with customer remain underspecified. To address this gap, we try to explain through a case analysis, the multi-channel strategy that Nike developed with the so called "ID service" in the Italian market scenario and how its basic principles can be a foundation to generate value over time through customer collaboration. In particular, this study explores the role of IT-enabled value co-creation in this domain.

## **Introduction**

In today's volatile economy, organizations use a variety of different distribution channels to interact with costumers. The Internet, kiosks, call centers, direct marketing, and catalogues, as well as bricks-and mortar stores, are now commonplace means by which consumers shop. The phenomenon of concurrent channels, owned by one company and providing similar services simultaneously, requires managers to be able to combine these resources in new ways and to gain additional resources (Gulati, Garino, 2000, Balasubramanian, Raghunathan, and Mahajan 2005; Strebel, Erdem, and

---

<sup>1</sup> University of Cagliari, Italy, enricoangioni83@gmail.com

<sup>2</sup> University of Cagliari, Italy, fcabiddu@unica.it

<sup>3</sup> University of Cagliari, Italy, diguardo@unica.it

Swait 2004; Neslin et al. 2006; Verhoef, Neslin, and Vroomen 2007). In this perspective, co-production, or co-creation, is becoming the cornerstone of marketing and design practices and a sort of managerial mantra that is rapidly gaining momentum both at professional and academic level (Vargo and Lusch 2004; 2008). Co-creation refers to collaboration with customers for the purposes of innovation and has become a foundational premise of the service-dominant logic (Lusch et al., 2007). Lusch and Vargo (2004) proposed service - dominant (S-D) logic as a new perspective for marketing.

They assume that marketing has moved from goods-dominant view, in which tangible output and discrete transactions were central, to a service-dominant view focused on intangible resources, co-creation of value, and relationships. Despite a growing interest for the above mentioned topic, the importance of how and why some specific organizations seem to be better at co-create value with customer executing channel interactions remain underspecified. To address this gap, we try to explain through a case analysis, the multi-channel strategy that Nike developed with the so called "ID service" in the Italian market scenario and how its basic principles can be a foundation to generate value over time through customer collaboration. In particular, this study explores the role of IT-enabled value-cocreation in this domain.

The article is organized as follows: First, we review the literature on marketing channel strategies and IT-based value co-creation. Second, we present the methodology and the case study. Third, we examine the study's findings. Finally, we discuss our case and present some implications for research and practice in this area.

### **Literature review**

A distribution channel has been described as the exchange relationship between the organization and its customers that creates customer value in acquiring and consuming products and services (Pelton et al., 1997). In recent year, many firms have adopted new channels in addition to their traditional one (Friedman and Furey, 1999; Frazier, 1999). The addition of new channels increases the complexity of customer management (Ward, 2001) because it opens up new areas

of the organization to customer contact and creates significant challenges in relation to staff roles and existing processes for interacting with customers. Channel integration is a strategic issue potentially requiring structural changes to the organization and changes in the behaviour of customers (Hughes, T., 2006). In particular, the task of coordinating and integrating multiple channels that operate at high levels of efficiency has forced managers responsible for channel management to deal with a variety of challenging issues. These include the role of e-commerce in the multi-channel structure, finding an optimal channel mix, creating synergies across channels, building strategic alliances, creating sustainable competitive advantages, managing more complex supply chains, dealing with conflict, and providing the leadership necessary to obtain well integrated multiple channels (Rosenbloom, B, 2007).

There are various channel management strategies that established companies can adopt. A synthesis of the literature suggests the following generic strategies (Chan and Pollard, 2003; DeKare-Silver, 2001; Reynolds, 2002; Shaw, 2000; Steinfield et al., 2002; Muller -Lankenau et al. 2004; Muller -Lankenau et al. 2005; Muller -Lankenau et. al 2006): Offline focused strategies; Online focused strategy; Isolation strategy; Integration strategy. In the first strategy, the online channel supports an existing distribution network, acknowledging the range of services offered by offline channels. In online focused strategies, “the offline channel is configured to guide customer to a corporate Web site or similar online offering” (Muller -Lankenau et. al 2006). The online channel operates in a parallel and non-integrated way to existing channels. An isolation strategy is pursued when online and offline channels are managed as separate or independent entities. Neither activities support customer to switch between channels. In contrast, some companies adopt the integration strategy, integrating their online channel with existing physical operations in order to leverage the benefits arising from potential synergies between the two. Despite companies recognise the benefits arising from the interaction between different distribution channels, this deployment strategy is the least used. Also, not all companies that have made this distributive choice have achieved the same results in terms of performance. Yet few are theoretical and empirical studies that seek to explain these differences.

A potential framework, for augmenting the theoretical basis about channel interactions and for understanding how and why some specific organizations seem to be better at managing and executing than other organizations channels interaction, is the IT (information Technology) enabled value co-creation perspective.

While many past studies have demonstrated a relationship between IT and some aspects of firm value (Devaraj and Kohli, 2002; Santhanam and Hartono, 2003), only recently some researchers have focused their attention on the co-creation of value through IT rather than on IT value alone.

The notion of IT-enabled co-creation of value emerges from the realization that organizational boundaries are increasingly permeable and that novel arrangements are emerging that enable previously unattainable value propositions (Kohli and Grover, 2008). Looking through the lens of Service Dominant Logic (Vargo and Lusch, 2008a; 2008b; Vargo and Akata, 2009), value is always co-created by customers and firms and IT enables such arrangement of the actions and offers the potential to reshape how much value can be created in collaborative relationships.

## **Methodology**

Case study research is the most common qualitative method used in Information Systems (Orlikowski & Baroudi 1991, Alavi & Carlson 1992). In particular, the research presented in this paper attempts to follow the guidelines suggested by Yin (1984), which includes specifying as much information about the organization, the participants and the experiment as possible, in addition to the complete experimental results. We chose to focus on the case of a firm in the sport industry, Nike, because we argue that sport industry must develop new key capabilities in order to leverage customer heterogeneity and attend to all stages off customer interactions.

We collected data at the Nike for approximately one year, starting in early 2010. We relied on two primary data sources: archives and interview. We began data collection by gathering extensive archival data from both firm internal and external sources. The internal sources included internal reports and presentation. The external source included media article about Nike.

We continued data collection using semistructured interviews with Barbara Montanari, Deputy Marketing Director and Head of Retail Brand Management at Nike Italy Srl and Marcella Fauci, Digital Commerce Marketing Manager at Nike Italy Srl. We used this interviews to identify the major decision about the Nike ID, which we then matched with those identified in the archival material, thus triangulating the data. The interviews ranged from one hour to two hours in length.

### **The Nike case**

Nike is primarily engaged in the design, development, and worldwide marketing of footwear, apparel, equipment, and accessory products. The company has operations in over 180 countries spanning Americas, Europe, Middle East and Africa, and Asia Pacific.

Nike's operations are divided into three product lines: footwear, apparel and equipment.

The Nike, started up in Oregon in the 1964 with the name of Blue Ribbon Sport, due to decennial friendship between Phil Knight and Bill Bowermann, with the commercialization of sport shoes of the Onitsuka Co. From Kobe on the US market. The company's Swoosh trademark and the Nike brand name were created in 1971. BRS launched Nike shoes for athletes during 1972. The company established its first US track and field training club for athletes in 1977.

Since seventies we have been witness of an increasing develop of the brand based on innovation which allows a differentiation on target market, such as dynamic advertising, where, through athlete sponsorship, it used to using sports event like a channel. From just a strategic marketing point of view the first years of new Millennium will be result very important, because through technology utilization and IT development it opened new border. Since 2002 we can see the beginning of multi-channel approach by Nike, which through the first integrated marketing campaign, where there is a synergy between different levels such as web, public relations, sells and consumer. In March 2006, Nike and Google jointly launched Joga.com, an online community for football. In April 2006, Nike

and Maven Networks introduced JogaTV, an internet TV channel focused on football.

Nike and Apple entered into a partnership to launch Nike + iPod products in May 2006. The first product developed through this partnership was the Nike + iPod Sport Kit, a wireless system that allows Nike+ footwear to connect with the iPod Nano.

That means the first important multi-channel approach of Nike, with technology utilization and creativity functional evaluation concerned the development of a new IS for a PA of big dimensions.

### **The Nike multi-channel approach**

The Nike multi-channel approach is based on a quite simple structure, composed by two main channels: the traditional channel and the web channel.

The traditional channel, which operates by means of the work of Nike Stores, supplies the products on the Italian market, varying its offer depending on the target areas. The web channel completes the offer through web sites, such as [nike.com](http://nike.com) and [nikestore.com](http://nikestore.com). The web-sites provide the possibility to deliver the whole Nike's supply information, sale and distribution integrating their online channel with existing physical operations in order to leverage the benefits arising from potential synergies between the two.

This approach by Nike, as stated by Barbara Montanari, 'was created to meet business needs', that can be distinguished between external and internal factors. The former are represented by technology developments such as the Internet, which currently represent a source way too relevant not to be taken into account. As stated by Montanari "Nike's direct competitors were also laying the foundations for a multi-channel approach."

With regard to the internal factors, reference is particularly made to needs or demands that Nike needed to meet within the Italian context. The Italian market is characterized by high fragmentation, in which many small companies operate. This is an obstacle to the delivery of large supplies and to a better distribution of certain kinds of Nike products, such as products for basketball and golf. These are problems that needed a solution in the traditional channel.

Nike's multi-channel approach, states Montanari, "provided the possibility to fill those competition and distribution gaps which could have been proven very dangerous to the supply of Nike products in Italy. This is because an approach with two channels makes one the complement of the other, a strategy that allows an innovative complete supply of all Nike products within the Italian market." The results for the year 2010 justify this strategic choice. Indeed, as mentioned by Ms Marcella Fauci, 'Nike's digital commerce shows a growing trend, with averages over the 50% and peaks of the 150% for certain kinds of products. It is an essential strategic asset for Nike that, thanks to the presence of multiple channels, can offer all the whole range of its products and solve the distribution problems of the traditional channel.'

### **The Nike ID Service: An Example Of It-Enabled Value Co-Creation**

Technology plays a key role in value co-creation at Nike. One key dimension of technology is that the Nike ID service represents the possibility for the customer to customize the product. Customers can change the standard product they are going to buy according to their needs and taste. The service provides a simple online interface to modify the architectural, material and aesthetical features of the product.

The Nike ID service has been operative for ten years now. The service in question has evolved together with the company. As stated by Monatanari, 'it was born merely as a marketing campaign but, through the exploitation of technological developments, rapidly became an important strategy asset to Nike.'

Nike's mission, through the ID service as well as the whole products range, is to try and find the better satisfaction of athletes, who are Nike's target customers.

*"If you have a body you are an athlete".*

The main features of this kind of service are represented by the fact that Nike ID is firstly a multi-channel service. Customers can exploit both channels – the traditional one with Nike Studio and the web



one with nikeid.com, which is directly linked to nikestore.com. Also, there is an ongoing collaboration between the company and customers through different contact points, the multi-channel approach. Nike can generate and refine new ideas rapidly, accumulate learning about what customers want and don't want and how they want to engage.

This kind of communication between the parties provided important changes in order to co-create a product which can better meet the customers' needs. First, thanks to the development of a multi-channel approach, the communication is always active by means of laptops, smart phones and Nike Studios, which inevitably entails the establishment of a collaboration between the parts. Secondly, the development of this kind of setting allows an open minded communication, which is the core foundation of value creation over time. However, it also entails a shift of the traditional roles. The customer (an athlete in this case) moves from a classic passive position to an active position where they cooperate to the development of the product with the company. The performance results for the year 2010 confirm the benefit provided by Nike's strategic choice about this kind of service. The ID service, as stated by Ms. Montanari, 'on the traditional channel, during the FIFA 2010 World Cup in South Africa, has seen an average of 60% on the customization of products sold in a traditional Nike Store. Fauci also pointed out that "the ID service provided by nikeid.com, on the web channel, is growing up with the same averages of nikestore.com - over 50% - and presents a continuous growth". This confirms the ID service as an essential strategic asset with an enormous competitive advantage, with an innovative service of performance customization, able to supply athletes shoes, or other products such as t-shirts among others, which are suitable to their needs and give a high sport performance.

## **Conclusion**

Our study takes initial steps to investigate the relationship between two issues that are of increasing interest: the value co-creation approach and the multi-channel distribution strategy. Despite there has been a lot of research that examines the value creation mechanisms and the multichannel distribution strategy this study is one of the

first ignitions to start academic and practitioners' discussion on the relationship between them. This study has helped to develop our understanding of the value co-creation as an outcome for carrying out business through a multichannel distribution system in the sport industry, a sector where the lack of empirical academic studies is striking due to the novelty of the phenomenon. Our goal in this paper was also to explore the role of IT within a context of value co-creation. When considering the statements provided by Nike Deputy Marketing Director, it appears quite clear that the same results could not have been achieved without the use of IT. Also, the IT development, has guaranteed the passage from Web 1.0 to Web 2.0, that is a change about the web exploitation, from a static utilization of internet to a dynamic and interactive use of web, which has pushed to a redefinition of Nike web strategy.

At the beginning the nikestore.com was a marginal service but the development of technology above mentioned, has pushed this service to be an important asset of Nike. This consolidation is warranted too by the results of nikestore.com, which as previously stated are keeping their improving over the years, with averages of 50% and peaks of 150%. Nike ID has followed the same track, or rather have been subjected of a changing more deeply, because has started with the traditional approach, just through the traditional stores, and has changed its nature in a multi-channel approach, keeping its growth over the years. These results are synonymous of the fact that the IT development has got a big improvement to the collaboration between the firm and customer.

The limitation of this study lies in its exploratory nature, with the present findings requiring confirmation in other settings by other researchers, including quantitative large-scale studies.

## References

Balasubramanian, S., Raghunathan, R., & Mahajan, V. (2005). Consumers in a Multichannel Environment: Product Utility, Process Utility, and Channel Choice. *Journal of Interactive Marketing*, Vol. 19, No. 2., pp. 12-30.

- Chan, P.S. and Pollard, D. 2003. Succeeding in the dotcom economy: Challenges for brick & mortar companies. *International Journal of Management*, March, Vol. 20, Issue 1, p. 11.
- DeKare-Silver, M. (2001) *E-shock - The New Rules*. New York: Palgrave.
- Devaraj, S. and Kohli, R. (2003). Performance Impacts of Information Technology: Is Actual Usage the Missing Link?. *Management Science*, 49(3), 273-289.
- Devaraj, S., and Kohli R.. 2002. *The IT Payoff: Measuring Business Value of Information Technology Investment*. NJ: Financial, Times Prentice-Hall, Upper Saddle River.
- Eisenhardt, K.M. (1989) " Building Theories from Case Study Research" *Academy of Management Review*, Vol. 14, No. 4, October 1989, pp. 532-556.
- Frazier, G.L. (1999), "Organizing and managing channels of distribution", *Journal of the Academy of Marketing Science*, Vol. 27 No. 2, pp. 226-40.
- Frazier, Gary F. (1999), "Organizing and Managing Channels of Distribution," *Journal of the Academy of Marketing Science*, 27 (2), 226-240.
- Friedman, L. G. and T. R. Furey (1999), *The Channel Advantage: Going to Market with Multiple Sales Channels to Reach More Customers, Sell More Products, Make More Profit*, Boston: Butterworth Heinemann.
- Friedman, L.G. and Furey, T.R. (1999), *The Channel Advantage: Going to Market with Multiple Sales to Reach More Customers, Sell More Products, Make More Profit*, Butterworth-Heinemann, Boston, MA.
- Gulati, R. and Garino, J. "Get the Right Mix of Bricks and Clicks," *Harvard Business Review*, May-June 2000, 107-114.
- Hughes, T. (2006). "New channels/old channels: Customer management and multichannels".
- Kohli, R. and Grover, V. (2008). Business Value of IT: An Essay on Expanding Research Directions to Keep Up With The Times. *Journal of the AIS (JAIS)*, (9:1), pp.23-39.
- Lusch, R.F., Vargo, S.L. and O'Brien, M. (2007), "Competing through service: insights from service-dominant logic", *Journal of Retailing*, Vol. 83 No. 1, pp. 5-18.

- Muller-Lankenau C, Klein S, Wehmeyer K (2004) Developing a framework for multi channel strategies—an analysis of cases from the grocery retail industry. In: Tan Y-H, Vogel DR, Gricar J, Lenart G (eds) Proceedings of the 17th bled e-commerce conference, Kranj, Moderna organizacija.
- Muller-Lankenau C, Wehmeyer K, Klein S (2005) Serving customers in a hybrid world: multi channel strategies in retailing. In: T. Saarinen, M. Tinnila, A. Tseng (eds), Managing business in a multi-channel world: success factors for e-business. Idea Group Publishing, Hershey, PA.
- Müller-Lankenau, C., Wehmeyer, K., Klein, S. (2006): Multi Channel Strategies: Capturing and Exploring Diversity in the European Grocery Retail Industry, International Journal of Electronic Commerce.
- Neslin, S. A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M. L., Thomas, J. S., et al. (2006). Challenges and opportunities in multi-channel customer management. *Journal of Service Research*, 9 (November), 95–112.
- Pelton, L., Button, D. and Lumpkin, J. (1997), *Marketing Channels*, Richard W. Irwin, Chicago, IL.
- Pelton, Lou E., Strutton, David & Lumpkin, James R. (1997). *Marketing Channels, A Relationship Management Approach*, Times Mirror Books, 728 pp.
- Reynolds, J. (2002). *A practical guide to CRM*. Gilroy, CA: CMP Books.
- Rosenbloom B., Multi-Channel Strategy in Business-to-Business Markets: Prospects and Problems, *Industrial Marketing Management*, n. 36, January, 2007, pp. 4-9.
- Santhanam, R., and Hartono E. 2003. "Issues in linking information technology capability to firm performance." *MIS Quarterly* (27:1): 125-153.
- Santhanam, R., Hartono, E. (2003). "Issues in Linking Information Technology Capabilities to Firm Performance." *MIS Quarterly*
- Shaw, M.J. (2000) building an e-business from enterprise systems. *Information Systems Frontiers* 2(1): 7-17;
- Steinfeld, C., T. Adelaar, and Y.-j. Lai (2002). Integrating Brick and Mortar Locations with E-Commerce: Understanding Synergy

- Opportunities. Hawaii International Conference on Systems Sciences, Big Island, Hawaii, January 7-10.
- Strebel, J., Erdem, T., & Swait, J. (2004). Consumer search in high technology markets: exploring the use of traditional information channels. *Journal of Consumer Psychology*, pp. 96–104.
- Vargo, S. and M.A. Akata (2009) "Service-Dominant Logic as a Foundation for Service Science: Clarifications", *Service Science* (1)1, pp.32-41.
- Vargo, S. L. and Lusch, R. F. (2008a) Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science*.
- Vargo, S. L. and Lusch, R. F. (2008b) From products to service: Divergences and convergences of logics. *Industrial Marketing Management*.
- Vargo, S. L., and Lusch, R. F. 2004. "Evolving to a new dominant logic for marketing." *Journal of Marketing* (68:1): 1-17.
- Vargo, S. L., and Lusch, R. F. 2008. "Service-dominant logic: continuing the evolution." *Journal of the Academy of Marketing Science* 36 (1): 1-10.
- Verhoef, Peter C., Scott A. Neslin and Björn Vroomen (2007a), "Multi-Channel Customer Management: Understanding the Research Shopper Phenomenon," *International Journal of Research on Marketing*, 19 (2), 31-43.
- Orlikowski, W.J. and Baroudi, J.J (1991) Studying Information Technology in Organizations: Research Approaches and Assumptions, *Information Systems Research*, Vol. 2 Issue 2, pp.143-169.
- Alavi, M. and Carlson, P. "A review of MIS research and disciplinary development," *Journal of Management Information Systems* (8:4), 1992, 8(4), 45-62.
- Ward, M. R. (2001), Will Online Shopping Compete more with Traditional Retailing or Catalog Shopping?, *Netnomics*, 3(2), 103-117.
- Yin, R.K. (1984) *Case Study Research - Design And Methods*. Sage Publications. Beverly Hills.

# IMPROVING ISO 9001:2008 WITH SIX SIGMA METHODOLOGY

**Antunes Glória<sup>1\*</sup>, Pires António<sup>1</sup>**

1. High School of Technology of Setubal, Polytechnic Institute Setúbal, Portugal,

[maria.antunes@estsetubal.ips.pt](mailto:maria.antunes@estsetubal.ips.pt)

## **Abstract:**

ISO 9001:2008 presents a strong focus on measurement, analysis and improvement, but how to meet the new requirements and drive significant performance improvement with a complementary six-sigma program, is the basis of this paper.

For many organisations actually process is consistent and repeatable: internal audits, corrective and preventive action systems help to maintain consistency, reduce variation, and even drive small improvements, but it is necessary to get ahead of the competition and not just keep up. Once today's process is stable and consistent, there is a tendency to treat it like a frame, with strict rules. When challenged to change, people find it hard to think outside the frame.

The ISO 9000 family of standards is based on eight quality management principles which, when applied, can help a organisation realize greater benefits; the six sigma program integrates the elements of management culture and quality techniques that are critical to driving performance improvement with a consistent process in four phases, Define, Measure, Analyze, Improve, Control (DMAIC). These phases were analysed and applied to a case study, and we have concluded that the result of a six sigma project is a revised process which is deployed and assured through the quality management system with its documented procedures, communications processes, and internal audit system.

**Key words:** six sigma, variability, quality management process

## **Introduction**

The ISO approach towards quality management concentrates on standardization of the activities of process. The eight quality principles of ISO 9000, along with ISO 9001 requirements outline processes. The emphasis is on the control of events in each aspect of product realization by documenting evidence and reports. The eight principles of ISO 9000 include prioritizing customer data, purchasing and quality systems, among other critical aspects. ISO 9000 recognizes each process, whose end objectives are the same, as an independent entity. Documented quality requirements typically decide, based on set rules, whether or not a particular process adhered to that standard. Maintenance of quality is achieved by adhering to key process and document control. Operating procedures and process control documents restrict deviations outside the concepts of what we should be doing in every process.

ISO 9001 suggests making informed decisions ensuring data and information are sufficiently accurate and reliable, and accessible to those who need it. Also, ISO 9001 refers decisions based on facts, but the organisations also balance it with experience and intuition.

The six sigma method is a project-driven management approach to improve the organization's products, services, and processes by continually reducing defects in the organization. It is a business strategy that focuses on improving customer requirements understanding, business systems, productivity, and financial performance. Dating back to the mid 1980s, applications of the six sigma methods allowed many organizations to sustain their competitive advantage by integrating their knowledge of the process with statistics, engineering, and project management (Antony et al 2003).

The basic concepts and benefits of the six sigma method (Harry and Schroeder, 2000) (Hoerl, 2001) is based on managing resources to reduce non-conformities and satisfy standards set forth by customers to the tune of only 3.4 defects per million opportunities. Six Sigma addresses quality issues as they arise and rely on Six Sigma managers to fix problems and establish different procedures. When an organisation adopts Six Sigma it must specially train management to establish and adapt control systems.

### **Quality Management Process and its significance**

There is no doubt that quality has become a major feature in the survival plan of organisations. With diminishing markets resulting from improved competitive performance and the associated factor of single sourcing arrangements by the major organisations, it is clear that unless there is a commitment to change, organisations will lose their competitive edge. Survival programmes based on quality improvement include everyone, from the top management down, in an ongoing, never - ending involvement based on monitoring, and improving, activities. The Total Quality Management programmes have a common theme of measuring and then improving.

When the Total Quality Management Process (TQMP) was introduced to managers and employees in a series of briefings in 1985, the importance of quality improvement was addressed very candidly: "*Quality improvement is fundamental to the future success of organisations*". These words also carry a warning: organisations that don't manage their quality will have a bleak future, but many have already found this to be true. The continued survival, then, requires definite action, because it demands quality (low quality leads to fewer customers and lower prices, and high quality leads to more customers and greater profitability).

Also quality demands change from problem correction to problem prevention, from problem orientation to process orientation, from Acceptable Quality Level to continuous improvement, from well-documented deviations to no deviations, from negotiated goals to goals based on requirements, and from preoccupation with front-end cost to life cycle cost. But change starts with awareness, and the TQMP briefings provide basic awareness. In-depth awareness will come through training in and application of the quality management principles. Awareness is only the first step through ongoing training, use of ability resources, personal participation, and expectation to learn and *practice* quality management everyday in all activities.

But, what is quality? Most organisations leaders view quality as desirable, yet they are unable to give a clear definition of quality. “Excellence”, “reliability”, “functionality”, and “elegance” are terms to describe quality, but they don’t give a clear, measurable definition of quality. In business, there is only one relevant definition of quality, that which meets Customers’ requirements. Customers’ requirements include functionality, price, availability, timeless, and reliability. The product is a quality product if it meets customer expectations. And while we may think we are producing a quality product, if our customers don’t agree we will soon have a warehouse full of “quality products”. Quality is not elegance, status, or high price, although they may be the result of quality. The quality needs to be managed: if customers don’t receive quality in products and services, they will find competitors who will provide it. Poor quality causes non-competitive products and services due to schedule delays, poor yields, excessive rework, high scrap rates, and costly support. There is a positive statistical correlation between product quality and two critical financial measures: Net Profit and Return On Investment.

### Six sigma approach

We can use this term “six sigma” in two ways: As a statistical concept - sigma is a statistical unit of measurement that describes the distribution about the mean or average of any process or procedure, and as a broad term that refers to overall approach or method for achieving leadership quality ( $6\sigma = \text{quality}$ )

A process or procedure that can achieve plus or minus six sigma ( $6\sigma$ ) capability can be expected to have a defect rate of no more than a few parts per million, even allowing for some shift on the mean.

In statistical terms Montgomery (2001), this approaches to zero defects, or 3.4 parts per million (ppm) defective, (Figure 1).

Six sigma is used as a measure of “goodness”: the capability of a process to produce consistently quality products.

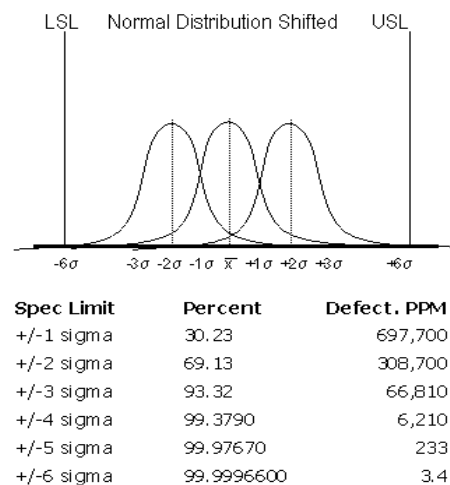


Figure 1- Effects of 1,5  $\sigma$  shift

If an organisation is operating at three sigma level for quality control, this is interpreted as achieving a success rate of 93% or 66,810 defects per million opportunities.

Therefore, the six sigma method is a very rigorous quality control concept where many organisations still performs at three sigma level (McClusky, 2000). The six sigma approach was first applied in manufacturing operations and rapidly expanded to different functional areas such as marketing, engineering, purchasing, servicing, healthcare and administrative support, once organisations realized the benefits. Particularly, the widespread applications of six sigma were possible due to the fact that organisations were able to articulate the benefits of six sigma presented in financial returns by linking process improvement with cost savings.



By reducing defects, we will shorten cycle time, lower product cost, increase yields and increase total customer satisfaction.

The six sigma method is composed by the sequence of activities:

- Identify the product characteristics that are critical to satisfying the requirements and expectations of the customer;
- Determine the specific product elements that fulfill these critical requirements;
- According to product elements, determine the process step that controls each critical characteristic (material / manufacturing issues that affect product design);
- Determine a nominal design value and the maximum - real - allowable tolerance for each critical characteristic which still guarantees successful required performance;
- Determine the capability for parts and process elements that control critical characteristics and;
- If  $C_p$  is not  $\geq 2$  ( $C_{pk} \geq 1.5$ ), then change the design of the product and/or process in order to achieve  $C_p \geq 2$  or institute process control measures that will reduce process variability sufficiently to achieve  $C_p \geq 2$ ,  $C_{pk} \geq 1.5$ .

Since no process is perfect, variation of characteristics will always occur, (Figure 2).

Variation is a fact of life. The normal distribution is a useful device which helps to see the variation in a characteristic. We know empirically that over time, the majority of distributions tend toward the normal. With a large sample, even the Poisson distribution tends toward normality. For all these reasons, we can apply the features of a normal probability distribution to a manufacturing environment.

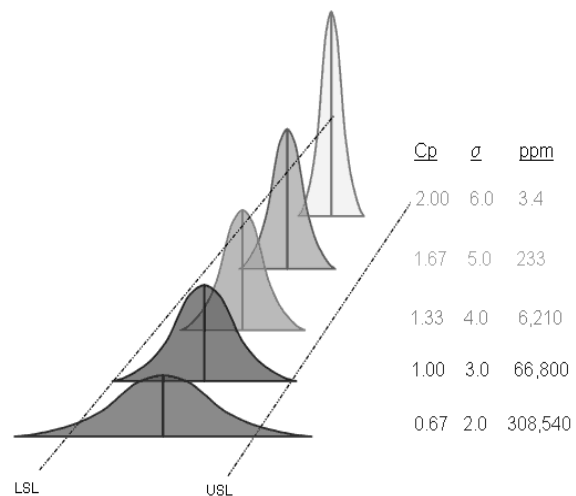


Figure 2- Centered Normal distribution  $\pm 6\sigma$

The six sigma methodology is a systematic data-driven approach using the Define, Measure, Analysis, Improve, and Control (DMAIC) process and utilizing Design For Six Sigma method (DFSS), (GE 2004).

The fundamental principle of six sigma is to “take an organization to an improved level of sigma capability through the rigorous application of statistical tools and techniques” (Antony et al., 2003). It generally applies to problems common to production.

Table 1 summarizes six sigma business strategies, tools, techniques, and principles

Table 1 Six sigma strategies, principles tools, and techniques (adapted from Antony et al., 2003)

Six sigma business strategies and principles	Six sigma tools and techniques
Project management	Statistical process control
Data-based decision making	Process capability analysis
Knowledge discovery	Measurement system analysis
Process control planning	Design of experiments
Data collection tools and techniques	Robust design
Variability reduction	Quality function deployment
Belt system (Master, Black, Green, Yellow)	Failure mode and effects analysis
DMAIC process	Regression analysis
Change management tools	Analysis of means and variances
	Hypothesis testing
	Root cause analysis
	Process mapping

Table 2 Key steps of six sigma using DMAIC process (Adapted from McClusky, 2000)

Six sigma steps	Key processes
Define	Define the requirements and expectations of the customer Define the project boundaries Define the process by mapping the business flow
Measure	Measure the process to satisfy customer's needs Develop a data collection plan Collect and compare data to determine issues and shortfalls
Analyze	Analyze the causes of defects and sources of variation Determine the variations in the process Prioritize opportunities for future improvement
Improve	Improve the process to eliminate variations Develop creative alternatives and implement enhanced plan
Control	Control process variations to meet customer requirements Develop a strategy to monitor and control the improved process Implement the improvements of systems and structures

### Six Sigma: Part of ISO 9001

The two main elements of Six Sigma are: Business process management and the methodology based on DMAIC issues (Define, Measure, Analyze, Improve and Control).

ISO 9001:2008 states:

- 4.1 “The organization shall a) identify the processes needed for quality management system and their application throughout the organisation, b) determine the sequence and interaction of these processes.”
- 8.2.3 “The organisation shall apply suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These

methods shall demonstrate the ability of the processes to achieve planned results.”

From this, we can deduce that ISO 9001 requires business process management as defined in Six Sigma terms. Six Sigma provides the specific guidelines on how an organisation might choose to achieve the requirements of ISO 9001.

DMAIC is a process for continual improvement that provides the methodology to meet process objectives.

Section 8 of ISO 9001, “Measurement, Analysis and Improvement” is the “MAI” of DMAIC? If three-fifths of DMAIC is in section 8 of ISO 9001, where are the “Define” and “Control” steps?

ISO 9004 (8.5.4), “Continual Improvement of the Organisation,” refers in annex B. “Process for Continual Improvement”, the same words used in the definition of DMAIC. We can observe the relationship between it and DMAIC. If an organisation followed the true spirit of ISO 9001, it would read ISO 9004 and this annex, put it into practice improves quality, lead-times, processes and their system, and develop its own version of DMAIC and Six Sigma.

“Define” is probably the least addressed step in ISO 9001, but it’s easily learned and applicable. ISO 9001 most closely addresses “Define” in the “Analysis of data” (8.4) section, which states, “organisation shall determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made.” This input then is used in the definition of the project as would be stated in the team charter.

The “Control” is stated throughout the ISO 9001 standard. Because the standard was written in a cyclical way, the outputs of the last section of the standard “Measurement, Analysis and Improvement” should be the inputs into the first section of the standard “quality management system.” Similarly, after the “Improvement” step of DMAIC is complete (section 8), an organisation should “Control” the gains; section of ISO 9001 as follows:

- 4.1 “The organisation shall c) determine the criteria and methods needed to ensure that both the operation and control of these processes are effective, d) ensure the availability of resources and information necessary to support the operation and monitoring of these processes”
- 4.2.1 “The quality management system documentation shall include documents needed by the organisation to ensure the effective planning, operation, and control of its processes”

This should offer a proof that Six Sigma is part of ISO 9001 and that Six Sigma can provide with the “how” in answering the question: “How does an organisation comply with the ‘true spirit’ of ISO 9000 as explained in ISO 9004?”

This situation is visualized in figure 3.

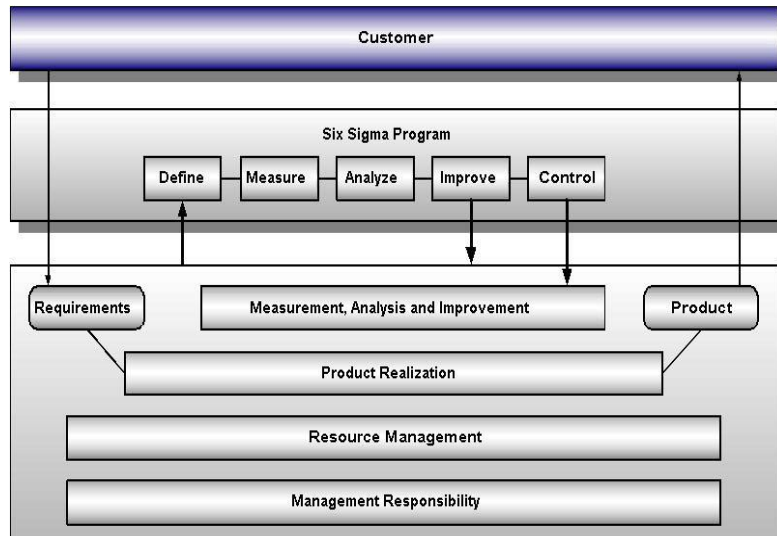


Figure 3 - How ISO 9001 complements Six Sigma (source: Patrick L Dey)

Six Sigma provides a methodology for delivering certain objectives set by ISO such as:

- prevention of defects at all stages from design through servicing;
- statistical techniques required for establishing, controlling and verifying process capability and product characterization;
- investigation of the cause of defects relating to product, process and quality system;
- continuous improvement of the quality of products and services.

Six Sigma utilizes a multi-faceted approach to doing business with total improvement of the end product being the goal. In doing so, Six Sigma defines and analyzes the processes critically almost always focusing on process improvements. The statistical tools used in Six Sigma help not just in the adoption of processes but are also critical tools of Six Sigma implementation.

If quality and customer satisfaction isn't increasing and lead times, inventories, waste and costs aren't decreasing, it doesn't matter if a company has a certified quality system or Black and green Belts, it is essential to manage according referenced in Figure 4.

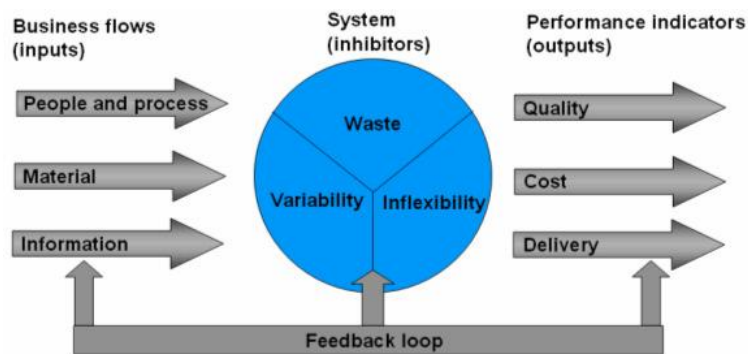


Figure 4 – System Process

## Methodology research

In order to collect data for analysis and discussion, we have performed some interviews with top management of 10 organisations with their Quality systems certified and some applications of 6 $\sigma$  DMAIC issues methodology. The interview, based on a semi-structured questionnaire, was applied to 10 top managers that are attending a Lean Operation Management MBA.

The main results, through a content analysis, are summarized in the following table 3.

Table 3 – Content analysis results

Categories	Units record
Six Sigma is not replacement for a quality system;	5
We haven't seen the positive financial impact of being certified. We are looking at the latest opportunity to get the returns.	6
Corrective and preventive action process is not effective for problems solving	5
Six Sigma is a good step to implement ISO 9001 because it makes the employees aware of quality issues and the cost saving effects in process improvements	7
For small and medium sized it might be better to use Six Sigma instead of ISO 9001.	3
We need to understand the potential of organisation quality system.	4
The use of statistic methods and tools to identify and improve certain processes throughout the organisation, makes it much easier to implement ISO 9001.	7
Six sigma deals mainly with variation and will highlight which order these variations require to be dealt with minimal rework/waste	5
Six Sigma is a micromanaging	3
Six sigma is a strategy and methodology for business performance improvement	10

## Conclusions

Successful implementation and growing organisational interest in six sigma method have been exploding in the last few years. It is rapidly becoming a major driving force for many technology-driven, project-driven organisations.

The statistical aspects of six sigma must complement business perspectives and challenges to the organization to implement six sigma projects successfully. Various approaches to six sigma have been applied to increase the overall performance of different business sectors. However, integrating the data-driven, structured six sigma processes into organisations still has room for improvement.

Six Sigma is a business improvement processes that should be viewed to be part of a continually improving quality management system (ISO 9001) and they must be fully integrated into the quality system to make them more effective.

We know that many organisations are focused on the certificate, rather than living the true spirit of ISO 9001:2000, as defined in ISO 9004:2000 ("Guidelines for Performance Improvements") and this is most evident in the inadequate determination of the root cause of a problem, which then leads to an inadequate action that only

addresses the symptoms, and not the underlying reasons, as to why the problem occurred in the first place. In many cases, people get blamed and the effectiveness of the quality system is not improved.

But, according to Levine and Toffel (2010), ISO 9001 delivers value, is not a fad, increases sales by roughly 10%, and more. The authors mention "...the strength and consistency of our findings leads us to shift our own priors in favor of the hypothesis that ISO 9001 adoption is more beneficial than we had anticipated."

Also, 3.4 defects per million opportunities sounds great for some industries assuming their products are life-threatening or simply cannot endure any margin of error. Why does it need to be six standard deviations? This is not explained; Six Sigma operates on the assumption that process data always conforms to a normal distribution model.

## References

Antony, J., Escamilla, J.L., Caine, P., (2003). Lean Sigma. *Manufacturing Engineer* 82 (4), 40–42.

David I. Levine and Michael W. Toffel 2011 *Isi 9001 vs six sigma*  
<http://www.hbswk.hbs.edu/faculty/mtoffel.pdf> (accessed June 2011)

Ford, GM, Chrysler (1991), *Fundamental Statistical Process Control Reference Manual*, Detroit, Michigan.

General Electric. (2011). What is six sigma: the roadmap to customer impact. Available online  
<http://www.ge.com/sixsigma/SixSigma.pdf> (accessed June, 2011).

Harry, M., Schroeder, R., (2000). *Six sigma: the breakthrough strategy revolutionizing the world's top corporation*. Doubleday, New York.

Hoerl, R.W., (2001). Six sigma black belts: what do they need to know. *Journal of Quality Technology* 33 (4), 391–406.

McClusky, R., (2000). The Rise, fall, and revival of six sigma. *Measuring Business Excellence* 4 (2), 6–17.

Montgomery, D. C. (1991), *Introduction to Statistical Quality Control*, 2<sup>nd</sup> Edition., John Wiley & Sons.

Patrick L Dey, (2010), *Six Sigma – ISO 9001*, <http://www.xlp.com>, (accessed June, 2011).

Young H. K., Frank T. A., (2004). *Benefits, obstacles, and future of six sigma approach*, Elsevier Ltd.

# Developing a Suitable Framework for Appropriate Project Management Application for IT Industry of Pakistan

Kamran Arshad<sup>1</sup>, Tariq Rafique<sup>2</sup>, Azam Ishaque<sup>3</sup>, Asim Nisar<sup>4</sup>

[kamran.arshad@gmail.com](mailto:kamran.arshad@gmail.com)<sup>1</sup>, [gr8rana4u@yahoo.com](mailto:gr8rana4u@yahoo.com)<sup>2</sup>, [azamishaque@yahoo.com](mailto:azamishaque@yahoo.com)<sup>3</sup>,  
[asim.nisar@ait.ac.th](mailto:asim.nisar@ait.ac.th)<sup>4</sup>

Center for Advanced Studies in Engineering Pakistan<sup>1,2,3</sup>, Asian Institute of Technology  
Thailand<sup>4</sup>

**Abstract**— The aim of this study is to define the framework for the selection of appropriate project management (PM) software for Information Technology domain Professionals. The analysis is based on the results of a random survey of project managers of different IT organizations. We organized a framework that considers External factors (demographics and work environment characteristics), Transitional factors (PM software usage category and historical use patterns), and conclusions (level of software package selected). The research analysis shows strong differences in amount of usage, type of usage, and PM application selection based on individually significant External and Transitional factors. It also holds up the hypotheses relating to amount of software use and level of software package used and provides qualified support for the hypothesis relating to software use for planning only, versus planning and control. These results will authenticate the developed framework.

## I. INTRODUCTION

Project management has become more critical in organizations as the growth in using projects to organize and manage work is increased. We need to improve the process of project analysis. Methods like PERT (Program Evaluation and Review Technique) and CPM (Critical Path Method) were developed to improve project planning and control. Techniques like Monte Carlo simulation were introduced for risk analysis and earned value for tracking the work. [1]

In the 1980's with the introduction of PC, more emphasis was to use the software based project management applications for project management. These project management applications included techniques of CPM, and PERT. The IT industry has also become one of the leading industries and they also need project management applications for tracking their software project efficiently. The Gartner Group estimates that vendors in the PM applications market offering consultancy and support services have earned revenue of \$800-\$900 millions per year with a constant increase yearly. [2]

PM application selection for all project managers in general and IT project managers in particular have significant resource implications. One of the main problems of the selection of PM application is deciding the extent of usage and the appropriate application required for their specific organizational needs.

The PM application selection requires a statistical analysis and assessment of the factors that influence the extent of usage, type of usage, and selection of PM software. Organizations need to select the PM application depending on their work environment and specific needs and understanding of the relationship between work environment factors and software usage patterns. [4]

In order to improve the success of IT projects, we are using already established criteria reported by numerous authors like Blaney<sup>7</sup>, Duncan<sup>8</sup> and Redmill<sup>9</sup> and Walteridge<sup>2</sup> and cover the following aspects:

- 1- Meeting Budget
- 2- Meeting Timescale
- 3- Meeting user requirements and specifications

The above three are also called triple constraints.

The purpose of this paper is to define a framework for selection of PM application for the IT industry of Pakistan. Specifically this paper will serve as a guideline for project managers/organizations in IT industry in selecting the appropriate software which will help in managing their projects.

## II. SURVEY

We did a random survey of several project managers from IT Industry of Pakistan. The survey consists of 19 items which deals with the information about work environment and demographic factors, PM application usage as well as PM technique usage. Based on this survey, we made the framework for selection of project management application for IT industry of Pakistan.

### III. BACK GROUND AND SUMMARY OF KEY FINDINGS

We present the initial findings of the survey which will lead to the framework.

- **DEMOGRAPHICS**

In our survey, 12 % of the organizations have 1000+ employees while 36% have less than 50 employees. The project managers have a median of 8 years of experience in project management. Nearly all the respondents have 40% of their time in project management activities.

### PM Applications Usage

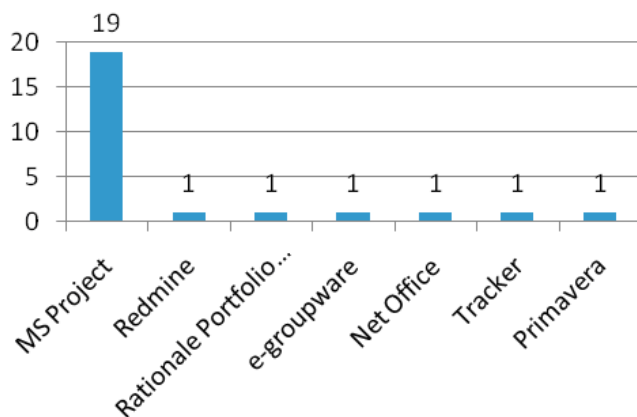


Figure1: PM Application Usage

- **PM SOFTWARE USAGE**

The use of project management applications grew in 1980s with the introduction of the PC. Our survey results suggest that almost 90% of the project managers in IT industry use some form of project management application for planning or planning and controlling their projects.

- **PM APPLICATION SELECTION**

The survey results also show us the PM application selected by the IT managers. Nearly 85% of the respondents use Microsoft Project for their project tracking. The exceptions are the open-source industry and the web industry which uses web-based online project planning applications. Primavera was used by 5% of the industry while 10% of open-source applications were used for PM.

According to PMI, the PM applications are categorized as high-end or low end based on the cost. A cost of \$900 plus is considered to be higher-end while a package cost less than \$600 is considered as the low-end. The high-end applications like Primavera have additional features like contract management, risk analysis and ability to handle complex portfolios with multitasking and multi-user.

- **TYPE OF PM APPLICATION USAGE**

90% of the respondents use the PM application for planning while 70% of them use it for planning and control. Planning

a project consists of defining the constraints scope of the project, time and resources. Control includes the monitoring of project performance and updating the project status. The project managers which use planning only applications, use the PM application during the start of the project while the planning and controlling applications are used throughout the project management life cycle.

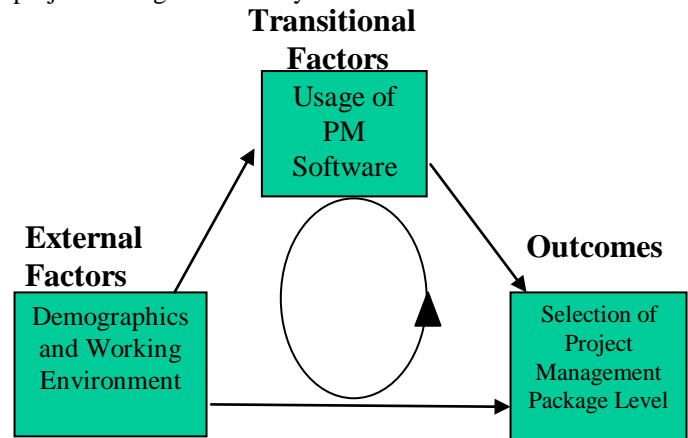


Figure2: Framework

### IV. ORGANIZING FRAMEWORK

The framework [1] is created from the survey based on the External factors, Transitional factors and outcomes.

**EXTERNAL FACTORS:** This group consists of following factors:

- Organization size;
- Percentage of work effort in PM;
- Years of experience in PM;
- Number of activities in a typical project;
- Number of projects worked in last 12 months;

**TRANSITIONAL FACTORS:** This group consists of following factors:

- Application Category;
- Initial years of Application usage;
- Percent of work done on that application;

**Analysis:** This group consists of the level of the respondent's most frequently used software package over the years preceding the study. The figure.2 represents the relationship of the factors involved in the framework. We can infer from the framework that that the External and transitional factors give us the usage of the PM application by IT organizations. Also the External and intermediate factors give us the PM application usage for planning or planning and control. We can also infer the selection of level of PM application usage from these factors.

We will address the below three hypothesis;

**H1:** *Extent of PM Application Use*

**H2:** *Use of PM application For Planning or Planning and Control*

**H3:** *Level of PM Application*



## V. ANALYSIS

### A. Approach

We start our work by calculating the correlation matrix for the variables for the factors which we defined in the framework. The correlation matrix suggests us that the highest squared correlation is between percent of PM application usage in the past year and two previous years.

The correlation of PM application usage of past year and last 5 years also has a high squared correlation. However

	Firm Size	No of Projects	Years of Experience	Percent PM Software Usage (Preceding 12 month)	Percent PM Software Usage (Preceding 02 Years)	Percent PM Software Usage (Preceding 05 Years)	No of Activities (Typical project)	Percent Participated last 12 Month PM
<b>Firm Size</b>								
<b>No of Projects</b>	.582** .001							
<b>Years of Experience</b>	.533** .003	.220 .146						
<b>% PM Software Usage (Preceding 12 month)</b>	.453** .011	.451* .012	.066 .378					
<b>% PM Software Usage (last 02 Years)</b>	.098 .320	.275 .092	.080 .352	.766** .000				
<b>% PM Software Usage (Preceding 05 Years)</b>	.051 .404	.246 .118	.084 .345	.758** .000	.758** .000			
<b>No of Activities (Typical project)</b>	.636** .00	.572** .001	.575** .001	.252 .112	.014 .475	.057 .394		
<b>% Participated last 12 Month PM</b>	.044 .417	.320 .59	.120 .270	.268 .098	.288 .082	.231 .133	.087 .339	

Figure3: CORRELATION MATRIX

only or planning & control. For H3, the dependent variable is categorical and it is low-end or high-end PM application.

### B. H1: Extent of PM Application Use

The dependent variable in this case is the extent of PM application usage in the past 12 months. The ANOVA suggests that the PM application usage for the past two and five years show high significance.

### C H2: Use of PM application For Planning or Planning and Control

none of the value is close to 0.80 to suggest a problem of multi co linearity among the variables.

For analyzing each hypothesis, we will perform a one-way analysis of variance (ANOVA) for each of the dependent variable versus all the independent variables.

The dependent variable for will be the PM application usage in last 12 months. For H2, the dependent variable is categorical and it is usage of PM application for planning

The dependent variable in this hypothesis is usage of PM application for planning versus planning & control. The ANOVA results suggest that PM application usage since the past 12 months, no. of activities and no. of projects shows high significance whereas PM application usage during last five years also shows significance.

### D H3: Level of PM Application

The dependent variable is level of PM application which can be lower end or higher end. According to PMI standards, a PM application which costs 900\$ or more is considered to be High-end application whereas an application which costs less than 600\$ is considered a low-end application. The anova result shows that the no. of projects, percentage work in PM shows high significance.

<b>TABLE1: ANOVA Results for Extent of Usage of PM Applications (H1)</b>						
		<b>Sum of Squares</b>	<b>DF</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>No. of Projects</b>	B/W Groups	447.507	15	29.834	2.908	.055
	Within Groups	92.333	9	10.259		
	Total	539.840	24			
<b>Years of Experience</b>	B/W Groups	107.667	15	7.178	1.685	.216
	Within Groups	38.333	9	4.259		
	Total	146.000	24			
<b>PM Usage during last 2 years</b>	B/W Groups	5358.143	15	357.210	5.116	.009
	Within Groups	628.417	9	69.824		
	Total	5986.560	24			
<b>PM Usage during last 5 years</b>	B/W Groups	5012.127	15	334.142	5.774	.006
	Within Groups	520.833	9	57.870		
	Total	5532.960	24			
<b>Initial year of usage</b>	B/W Groups	29.307	15	1.954	.824	.644
	Within Groups	21.333	9	2.370		
	Total	50.640	24			
<b>No. of activities</b>	B/W Groups	1828.243	15	121.883	1.918	.163
	Within Groups	571.917	9	63.546		
	Total	2400.160	24			
<b>Percent Work Done in PM</b>	B/W Groups	4856.377	15	323.758	2.550	.080
	Within Groups	1142.583	9	126.954		
	Total	5998.960	24			

<b>TABLE2: ANOVA Result for Type of Usage (H2)</b>						
		<b>Sum of Squares</b>	<b>DF</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>No. of Projects</b>	B/W Groups	161.840	1	161.840	9.847	.005
	Within Groups	378.000	23	16.435		
	Total	539.840	24			
<b>Years of Experience</b>	B/W Groups	18.286	1	18.286	3.293	.083
	Within Groups	127.714	23	5.553		
	Total	146.000	24			
<b>PM Usage during last 2 years</b>	B/W Groups	991.203	1	991.203	4.564	.044
	Within Groups	4995.357	23	217.189		
	Total	5986.560	24			
<b>PM Usage during last 5 years</b>	B/W Groups	616.016	1	616.016	2.882	.103
	Within Groups	4916.944	23	213.780		
	Total	5532.960	24			
<b>Initial year of usage</b>	B/W Groups	.140	1	.140	.064	.803
	Within Groups	50.500	23	2.196		
	Total	50.640	24			
<b>No. of activities</b>	B/W Groups	669.303	1	669.303	8.894	.007
	Within Groups	1730.857	23	75.255		
	Total	2400.160	24			
<b>Percent Work in PM</b>	B/W Groups	720.968	1	720.968	3.142	.090
	Within Groups	5277.992	23	229.478		
	Total	5998.960	24			
<b>PM usage during last 12 Months</b>	B/W Groups	2292.054	1	2292.054	10.698	.003
	Within Groups	4927.706	23	214.248		
	Total	7219.760	24			

TABLE3: ANOVA Result for Level of PM Selection						
		Sum of Squares	DF	Mean Square	F	Sig.
No. of Projects	B/W Groups	111.090	1	111.090	5.959	.023
	Within Groups	428.750	23	18.641		
	Total	539.840	24			
Years of Experience	B/W Groups	8.048	1	8.048	1.342	.259
	Within Groups	137.952	23	5.998		
	Total	146.000	24			
PM Usage (last12Months)	B/W Groups	853.772	1	853.772	3.085	.092
	Within Groups	6365.988	23	276.782		
	Total	7219.760	24			
PM Usage (last2year)	B/W Groups	285.274	1	285.274	1.151	.294
	Within Groups	5701.286	23	247.882		
	Total	5986.560	24			
PM Usage (last5year)	B/W Groups	265.008	1	265.008	1.157	.293
	Within Groups	5267.952	23	229.041		
	Total	5532.960	24			
Start of Usage	B/W Groups	.688	1	.688	.317	.579
	Within Groups	49.952	23	2.172		
	Total	50.640	24			
No. of activities	B/W Groups	359.600	1	359.600	4.053	.056
	Within Groups	2040.560	23	88.720		
	Total	2400.160	24			
% Work in PM	B/W Groups	1864.972	1	1864.972	10.376	.004
	Within Groups	4133.988	23	179.739		
	Total	5998.960	24			

## VI. CONCLUSION

Our findings are that PM application is used by almost all the IT organizations these days. Most use it for initial planning of their projects while there are handfuls of organizations which also use it for controlling their whole project life cycle. The key factors influencing the PM application usage is the complexity of the projects and size of the organization. MS Project seems to be the choice of most of the IT organizations. Primavera is dominant in the construction and other engineering industries but seems that it is not the choice of IT organizations. There is also a small share of open-source PM applications mostly used by organizations which use PM applications for planning only.

The analysis in our study reveals strong support for the hypothesis 1 (Extent of usage), hypothesis 2 (planning & control) and hypothesis 3 (level of software package used) defined in the framework.

The results show that the extent of usage is influenced by the application usage of past two and five years. The use of PM application for planning only versus planning and

control is influenced by the PM application usage since the past 12 months, no. of activities whereas PM application usage during last five years also shows significance. The type of PM application used shows no. of projects, percentage work in PM as significance variables.

- [1] *Factors Influencing the Usage and Selection of Project Management Software* (Matthew J.Liberatore & Bruce Pollack-Johnson)
- [2] *IT Projects: A Basis for Success* (John Wateridge)
- [3] *Current Practices in Project Management: An Empirical Study* (Diana White, Joyce Fortune)
- [4] *An Integrated Framework for Project Portfolio Selection* (NP Archer & F Ghasemzadeh)
- [5] *Criteria of Project Success: An exploratory Re-Examination* ( C S Lim & M Zain Mohamed)
- [6] E. H. Miller, "A note on reflector arrays (Periodical style—Accepted for publication)," *IEEE Trans. Antennas Propagate.*, to be published.
- [7] Duncan, W 'Get out from under' *Computerworld* 9 Mar 1987 89-93
- [8] Blaney, J 'Managing software development projects" *Proc Project Management Institute Seminar--Symposium Atlanta, GA, USA* (Oct 1989) 410-417
- [9] Redmill, F J 'Considering quality in the management of softwarebased development projects' *Information & Software Technology* 1990 32(1) 18-22

**14<sup>th</sup> Toulon – Verona Conference**

**Excellence in Services**

**Alicante, 1-2-3 September 2011**

**The need for customer education in high people-density services: a new role for service providers?<sup>1</sup>**

Claudio Baccarani, University of Verona

[claudio.baccarani@univr.it](mailto:claudio.baccarani@univr.it)

Federico Brunetti, University of Verona

[federico.brunetti@univr.it](mailto:federico.brunetti@univr.it)

**KEY-WORDS:** high people-density services – badly-mannered consumers – customer education

## **1. Introduction**

In recent decades a general deterioration in behaviour and the loss of good manners seem to be increasingly features of our society, at least this would seem to be the case in Italy. This loss of manners has repercussions on people's conduct as users or consumers of businesses, and in particular those concerns that provide high people-density services – those, either public or private, characterized by a high number of people attending at the same time.

In such a context not only does the consumer or pro-user become ever more demanding, impatient and intolerant in the face of the even slightest difficulty, but also frequently adopts inappropriate attitudes and behaviour that may include rudeness and disrespectfulness.

Businesses have thus had to deal with users whose civility has been falling off at an alarming rate. By way of opening examples consider the habit students have of eating and drinking during lectures or lessons, the disturbance caused by noisy patrons of bars at night and the arrogant conduct encountered in hotels, restaurants and other facilities used by, what

---

<sup>1</sup> Although our work has been jointly conceived and comes from shared reflections, paragraphs 1-4 have been written by Federico Brunetti, while paragraph 5 has been written by Claudio Baccarani.

may indeed be quite wealthy tourists who seem little aware of the customs of the places in which they are guests.

There are a number of threads running through the literature that address inappropriate behaviour on the part of customers: specifically consumer misbehaviour, aberrant consumer behaviour or dysfunctional consumer behaviour. We are in this paper not addressing the issue of the extreme fringe that commits actual criminal offences involving violence, vandalism, stealing and such like, nor even such undoubtedly improper conduct such as verbal abuse, blaming or submitting fraudulent returns, but that broader multifarious area of conduct and attitudes that could simply be described as disrespectful.

Though the conduct under consideration may be regarded as constituting “minor” aberrations, which as such often the company management often just let go, and perceived moreover as being largely impossible to eliminate, they remain without question difficult situations for such organisations to contend with.

The sheer scale the phenomenon has assumed leads to a supposition that it may be having a significant negative impact on the companies in question and on society itself, and as such is worthy of further consideration in this paper.

As regards the company organisation, we shall see that the bad manners of the customer generates stress for the staff, a worsening of the service provided, a loss of image in relation to other customers and together these all lead in their different ways to an overall deterioration in terms both of the quality of the service provided and the economic performance of the company.

In social terms, as will also be considered later, the bad manners of the customer generates feelings of disaffection, unease, impotence and distrust. To put it bluntly a loss of social capital in the community of a particular area.

This paper therefore seeks to define and clarify the notion of the badly-mannered customer and then work out some ideas of how the loss of manners and civic sense rife among today’s customers can be addressed, all with the aim of improving the quality of output in these high people-density public services.

By way of a start, the following paragraph will analyse the current literature on the subject, and go on to define the concept at the heart of the study. After clarifying methodological considerations, some suggestions will be put forward on how to address the issue in question, discussing in particular the role the organisations providing the services can play themselves.

## **2. Literature Review**

As often happens in the literature this whole area is replete with labels, each associated with a similar or with a quite different content as the case may be.

A chronological review of the main threads must take in the notions of “Aberrant Consumer Behavior” (Fullerton, Punj, 1993), “Jaycustomer behavior” (Lovelock, 1994), “Consumer Misbehavior” (Fullerton, Punj, 1997), “Dysfunctional Customer Behavior” (Harris, Reynolds, 2003) and “Unfair Customers” (Berry, Seiders, 2007).

Fullerton and Punj, in their first work based on the literature in the areas of the sociology of deviance, criminology, criminology and psychology, define aberrant consumer behaviour as “behavior in exchange settings which violates the generally accepted norms of conduct in such situations and which is therefore held in disrepute by marketers and by most consumers” (Fullerton, Punj, 1993, 570). The work deliberately avoided going on to describe specific acts of aberrant consumer behaviour, preferring to concentrate the factors that lead to it as outcome.

A subsequent work however has the stated aim of defining “Consumer Misbehavior”, suggesting that it consists in “behavioral acts by consumers which violate the generally accepted norms of conduct in consumption situations, and disrupt the order expected in such situations” (Fullerton, Punj, 1997, 336). The examples offered include credit card fraud, exhibitionism, acts of violence, shoplifting and the switching of price tags.

Referring to the sociological Labelling Theory, they affirm the inadequacy of criteria based on the “criminal” nature of such actions, as well as the inadequacy of intentionality, and end up by embracing a deliberately broad view of the phenomenon.

Lovelock for his part introduces the notion of “jaycustomers”, defined as “those who deliberately act in a thoughtless or in an abusive manner, causing problems for the firm, employees, or other customers” (Lovelock, 2004).

Harris and Reynold set out to add to the understanding of the various forms of “jaycustomer behavior” leading them to the categorisation of behaviour. The eight types of behaviour thus identified are compensation letter writers, undesirable customers, property abusers, service workers, vindictive customers, oral abusers, physical abusers and sexual predators.

Harris and Reynolds also put forward two classification criteria, i.e. visibility and principal motivation. As regards the former, a distinction is made between hidden and open conduct, while the second criterion distinguishes between conduct that is financially motivated and that which is not financially motivated.

In 2003 Harris and Reynolds turned their attention to the consequences of bad behaviour on the part of customers, introducing the concept of “dysfunctional consumer behavior”, deeming this to be a more neutral term that applies to “actions by customers who intentionally or unintentionally, overtly or covertly, act in a manner that, in some way, disrupts otherwise functional service encounters” (Harris, Reynolds, 2003, 145).

Fullerton and Punj, in their interesting contribution to the discussion in 2004, defined consumer misbehaviour as “behavioural acts by consumers, which violate the generally accepted norms of conduct in consumption situations, and thus disrupt the consumption order”, furnishing us with a classification essentially built on those at the receiving end of the misbehaviour. They thus come to identify behaviour that is directed at the employees of the concern, at the assets of the business, at other consumers, at the financial affairs of the company and finally at the physical or electronic structures of the business.

Each of these types is then examined in relation to the nature of the actions, to the type and degree of damage and to the reactions of the business itself and of other consumers. This contribution to the literature is interesting not only for the depth of its analysis but also

because, as shall be seen, it establishes a link between bad behaviour by consumers and the consumer culture cultivated by business.

In 2007 Berry and Seiders brought us the new label of “customer unfairness”, which “occurs when a customer behaves in a manner that is devoid of common decency, reasonableness, and respect for the rights of others, creating inequity and causing harm for a company and, in some cases, its employees and other customers” (Berry, Seiders, 2007, 30). In this landscape, the unfairness is perceived where the actions are sufficiently serious and repeated, requiring the crossing of certain damage and frequency threshold, while in every case the intentionality of the action is applicable. Berry and Seiders also identify what they deem to be the types of conduct that is classifiable as unfair. They recognise this category as containing the likes of verbal abusers, blamers, rule breakers, opportunists and returnaholics.

Finally, Fisk et al. have recently provided a wide-ranging review aimed at highlighting the important issues in this area and proposing a research agenda for academics in this field. There is a noteworthy attempt by these authors to provocatively go out and seek the possible positive effects of badly behaving customers (Fisk et al., 2010).

This analysis indicates two fundamental perspectives: misbehaviour occurring where there is a failure to adhere to “generally accepted norms” and when behaviour results in “disruption” to “otherwise functional service encounters”. In the first case the emphasis is on rule breaking, leaving aside its effects, while the second primarily draws attention to the consequences of the conduct, irrespective of any failure to comply with any rules. The common factor is a certain openness and indeterminacy in these concepts that cannot easily be contained within clear boundaries. Both the generally accepted rules and the damage suffered by otherwise effective services leave space for subjective evaluations and no specific criteria are laid down for their identification.

Not just with regard to the definition of terms, but also when the other characteristics of the concepts under examination are considered, such as intentionality, motivation and visibility, interpretations do in fact diverge. It is therefore no great surprise that the types include a range of actions and behaviour that is most definitely heterogeneous in nature.

### **3. Comments on methodology**

The work addresses a subject that, as emerges from the review of the literature, has only quite recently appeared. Consumer misbehaviour, aberrant consumer behaviour and dysfunctional consumer behaviour offer points of contact with the concept of customer bad manners, but it is certainly not the case that the different forms of bad behaviour coincide with each other.

The work also considers a subject that is to be found, at least at first glance, at the margins of management theories and techniques. The problem of ill mannered customers could be regarded as not pertinent to the management and the organisation of services, coming rather within the sphere of sociology. In reality, as this paper will seek to show, such problems have repercussions on public and private organisations that provide high people-

density services and as such they are a legitimate subject of study from the management perspective.

The relative newness of the subject and its apparent marginality therefore necessitate a methodological approach that is still exploratory in nature. As regards the research strategy, at this stage examples need to be gathered and some kind of definition of the subject of the investigation needs to be settled on. The preferred method for the collection of data is direct observation.

Such method is clearly subject to possible bias, due to the subjective nature of any judgement on the greater or lesser gravity of the bad manners displayed in any given behaviour. One of the results of the work may consist in a preliminary framework construct, starting from which researchers can develop a more complete and accurate definition.

As well as the descriptive part, the work also makes a preliminary attempt to develop some prescriptive proposals. This amounts to, and it could be no other way, embarking on a reasoning process. Given the importance of and the impact of the loss of manners on the part of high people-density service users, it seemed right thing to at least try to suggest possible ways forward for a solution.

#### **4. The construct, its antecedents and the consequences**

Having looked at those concepts closet of the subject of our work and after emphasised the exploratory nature of the research, it is time to deal directly with the bad behaviour of the customer. What is meant here by “bad customer behaviour”? How should it be defined? What kind of behaviour is involved? What are the causes? How has such as state of affairs come about? What are the effects? What will happen if we continue to slide down this slope?

##### *The concept of Customer bad behaviour*

It is not our intention to further add to the confusion surrounding this subject, but it does seem that our construct of customer bad behaviour grasps certain aspects that have been overlooked by other authors.

To give a rough outline of our concept, with regard in general to less serious forms of conduct, it comes with the classification of “violation of generally accepted norms” of Fullerton and Punj as well as that of “disruption of otherwise functional service encounters” of Harris and Reynolds. On the one hand there is no doubt that bad behaviour is conduct that goes against that which is normally regarded as acceptable. On the other hand it seems equally true that it does alter the normal provision of a service.

It would seem that it is closest to the “customer unfairness” idea of Berry Seiders, though not coinciding precisely with this. Berry and Seiders’ categories of verbal abusers, blamers, rule breakers, opportunists and returnaholics do however regard forms of behaviour for which the business concerned is the direct object.



Our concept of bad customer behaviour has, though, more to do with the personal ways of being and ways of doing of the customer, which are at least not in the first place aimed at the business even if they do have their affect on it.

The bad behaviour to which we refer originates simply with conduct that is neither particularly serious nor that is carried out with the actual intention to cause damage. The behaviour concerned consists rather in conduct characterised by lack of respect for or thoughtfulness towards other customer and others in general.

From our perspective bad behaviour means essentially the failure to afford respect, a the lack of thoughtfulness and a lack of consideration for the sensitivities of third parties during the provision of the service. It is as if the badly behaved customer thinks he or she is alone, taking no account of the current or subsequent presence of any colleagues or customers (Axia, 1996).

The case histories that we can furnish here are necessarily incomplete and serve only as examples. Anecdotal evidence that may be cited includes the littering of railway carriages, damaging furnishings in the university buildings, keep seats occupied on means of transport or in libraries while not actually occupying them, jumping taxi queues, airport check-ins and ticket office lines.

These can be regarded, all things considered, as “light” infringements, where no serious damage is caused. In most cases the “victims” suffer without visibly reacting to the situation. The latent psychological or emotional damage may however be more significant.

The fact is, bad behaviour is difficult to define for the very reason that the rules of “good manners” are rarely, if ever, found written and codified in manuals or other form. Where will it ever be found written that it is good manners to give up a seat for an old person in a public vehicle. Where is the principle that it is good to keep your telephone conversations confidential expressed as a rule of good conduct? Who is it that teaches us not to flock to the dishes at a buffet dinner and not to hinder the access of other persons standing immobile waiting to get to the table?

“Good manners” are or should be first and foremost taught by the family, then by educational institutions and finally by the community as a whole. It is difficult to find other sources dealing with the matter of transferring these kinds of “minor rules”. This is perhaps because their are just that, minor in nature or simply because they are given as read and it is thought that they are somehow “automatically” acquired.

It is interesting to note that the term “maleducazione” in Italian (badly-mannered or literally badly-taught or ill-educated) refers not directly to conduct but to its *cause*, perceived of as part of an unsuccessful education process. “Maleducazione” is not defined in this case as an actual quality but is left hanging indeterminately without reference to what it consists of.

As often happens, it is no doubt a subjective and dynamic concept whose parameters will vary from person to person and will also change over time. It is in any case interesting how bad behaviour is principally in the eye of the beholder, the person suffering from it or the outside observer, while the agent usually remains unaware of it, or choose to pay no attention to it for some reason.

For the sake of clarity it should be said that we are not talking here about bad behaviour or bad manners in general, but rather the instances that take place in the context of

a business organisation, that is to say in the carrying out of a service provided by an organisation. While the organisation in question may be public or private in nature.

Services that involve limited interaction between the provided and the user, or that are performed in the present of a limited number of people, such as in a hairdresser's salon, at a the office of a law firm or an insurance office, do not come within the scope of the problems addressed in this discussion.

Bad behaviour is more frequent, and above all has a greater impact where the service concerned is carried out in the presence of a large number of other people, usually customers who are using the same service or that are waiting to be served. It is for this reason that the services in question are defined as though characterised by "high people-density".

These services most commonly delegate tasks to the customers for their self-production of the desired output and have relatively few company employees on hand. The relationship between staff and customers is normally low level. On the train, in the university faculty or in a hotel, the travellers, students or guests are often left to carry out most of the required actions on their own.

Three potentially negative conditions thus appear in combination, the presence of a large number of consumers, low levels of staffing and a large share of the performance of the service given over to the consumers themselves.

Since an ever broader bouquet of activities is now carried out by people in environments that are controlled by organisations, many authoritative writers have defined ours not so much as a a market economy as an organisation economy (Mintzberg, 1989; Ghoshal, 2009)), with the result that the problem in question is far from being a secondary issue.

#### *The causes behind bad customer behaviour*

Among the reasons underlying this situation, the following should be included:

- a. the processes of our time that tend to delegitimise authority,
- b. the affirmation of the logic and the rhetoric of the sovereignty of the customer,
- c. the availability of devices and technologies that foster the perception of omnipotence.

Having defined bad customer behaviour in the terms we have above, it is inevitable when considering the causes to make reference to the most wide-ranging factors.

One of the foremost of causes can be seen in the social processes that have for a long time now seen a decline in the traditional sources of authority. Parallel to these there has been a growth in individual freedoms and discretionary actions with ever greater emphasis on self-generated rather than hetero-generated rules of conduct. People have steadily been acquiring greater liberty.

Such process should not be regarded as a matter of regret, indeed quite the opposite. It would be hard to feel nostalgia for times that were dominated by convention, decorum and honour, often in any case little more than window dressing, as often portrayed in costume dramas set in Victorian times. The individual's potential undoubtedly a greater chance of

being fulfilled today, when each person can, obviously within certain limits, follow his or her own inclinations, dreams and aspirations more freely than in the past.

There is however an unavoidable other side to the coin, the decline in a “public conduct ethic” that is there for all to see. It would seem that the growing affirmation of individual rights and freedoms, of itself undoubtedly progress, has not been accompanied by a corresponding consciousness of inescapable duties and responsibilities.

A second factor, which more directly relates to the company environment, is the second principle, that is the sovereignty of the customer, the customer is boss. The centrality of the customer, first from marketing theory and practice and then from total quality, has made customers used to having their every need met and to assume that they are always right. It is logical that such “customer-tyrants” feel they are not bound to act according to any particular tenets, indeed feeling convinced of being possessed of the right to conduct themselves entirely as they please (Fullerton, Punj, 2004). Well aware of their indispensability to the prosperity and the very economic survival of the company concerned, the customers are often to a greater or lesser extent encouraged to move with complete liberty, ending up by feeling completely untouchable.

On closer inspection it is not the logic of the sovereignty of the customer in itself that should be seen as a direct cause of bad behaviour, though it does prepare fertile ground for lack of respect for rules or at least provide an environment in which a certain casualness of conduct can take root. In the area of services the customer is so used to having his or her wishes met that a widespread mentality has developed that is little inclined to any restrictions on comportment. The principle of the sovereignty of the customer has thus developed into misplaced feelings of omnipotence and a complete intolerance of any limitations.

In the specific instance of true public services, there is another factor at work. As there is no figure of owner as such, each citizen-user feels to some extent its owner. As such he feels all the more inclined to act as he pleases.

The last factor, also general in nature, relates to growth in the sense of power of the customer, this time due to the effects of technology. The information and communication technologies now accessible personally at any time and in any place, such as of course personal computers and the smart phones, create in people the perception of having almost unlimited powers. Memories that can now contain huge quantities of data in small portable objects, tiny instruments with breathtaking powers of calculation and devices that enable the user to quickly and with virtually no expenditure of energy to obtain any information of any type give people the idea that everything is possible always, effortlessly and fast (Sennett, 2007). These kinds of technology moreover reduce the space for direct face to face human interaction. Interpersonal relations ever more frequently pass by way of means of communication which by definition can reach people that are far away, providing exposure to the risk of increased psychological and emotional distance. People simply lose the habit of having to deal with other people all increasingly immersed in, and caught up in, a web of virtual connections. The result is a deterioration in the quantity and quality of human relations that cannot, at least in part, fail to set lesser store on the importance of “good manners”.

Also in the case of these technologies, they cannot be said to be per se direct causes of the bad behaviour but they are debilitating factors as regards the ability to wait, to accept

limits, to recognise that not everything can necessarily be done, on the one hand, and as regards the normal performance of polite interpersonal discourse on the other.

Although it would of course be an option to proceed with a study of possible causes of bad customer behaviour in its various manifestations, it was decided that this was not be the remit of our investigation. The literature on aberrant consumer behaviour, on customer misbehaviour or on dysfunctional consumer behaviour already offers a good deal of analysis in this regard. Our remit has been to concentrate on other aspects which, though broad in nature, seem to offer particular insights into the matter in hand while at the same time providing a useful overview.

### *The effects of bad customer behaviour*

Though the kinds of conduct under examination relate primarily to what are essentially “merely” bad manners, their effects can be real enough. The main consequences of ill mannered conduct are felt by:

- a. other customers,
- b. staff of the organisation concerned,
- c. the business itself,
- d. society at large.

Badly mannered behaviour first and foremost produces its effects on other customers. Except in the case in which all of the customers behave (badly) in the same way, which may happen, the first to suffer are the other persons who are at that time fellow users of the service. We should incidentally recall that the services considered in this paper are only those involving large numbers of customers.

The negative consequences are not necessarily suffered directly; if a student is eating in the lecture theatre his fellows do not directly suffer, any consequences will be primarily psychological in nature. Other students may complain (i) of having to put up with inappropriate behaviour, (ii) of a sense of unfairness where some behave well and others badly, and the way the respective students are treated, (iii) about the inability of the staff members of the service to have their rules complied with and (iv) of their disappointment in having to witness a deterioration of the quality of civil coexistence in their particular community.

The first consequence therefore impacts on other consumers present, where these see their limitations attaching to their own exercise of right as user (such as for example a seat kept occupied in a hall with nobody actually using it) or where they are forced to bear put up with indecorous behaviour, for example where the train travel finds another traveller with shod or unshod feet up on the seat opposite. In other cases the damage may extend to future users of the service (where for example train carriages are left littered or damaged).

In addition to this first series of consequences can be linked a cascade of consequences for the staff, which as has been said have to put up with the criticism of being unable to keep

the situation under control. It is quite rare in practice for the other customers to ask the staff to intervene, as where the conduct comes within the broad area of bad manners it is in practice unlikely to cross the threshold into behaviour that will induce a demand for action. The criticism, albeit implicit, tends however to linger. Such criticism may then extend towards the management of the organisation, in its turn deemed accountable for the shortcomings of the front line, or at least incapable of putting in place the required measures to ensure the ill-mannered actions do not occur.

Some bad customer behaviour may affect employees directly where these still have to provide a service, possibly under worse conditions than normal, while feeling impotent to act in the face of uncivil behaviour (Harris, Reynolds, 2003). To this may be added the negative attitude engendered among the well mannered, well behaved, consumers, leaving the staff frustrated and demotivated with the possible result that the service itself may suffer, setting in motion a vicious circle that affects the whole consumer pool.

While it is very difficult to establish precise and quantifiable causal relationships, it comes almost naturally to suppose that there will be a deterioration in the performance of the company as a result of frustration and lack of motivation in the staff as well also as damage to image and reputation and following from word of mouth criticisms from customers irritated by bad manners that are not dealt with.

Lastly, the bad behaviour of some customers has effects that go beyond the boundaries of the organisation, but which are equally, if not more, damaging. These spill over into society as a whole. Having to observe badly mannered behaviour on the part of some customers puts into high relief the levels of disregard for the rules, generates indifference and disaffection and leads to an overall loss of trust. A perception arises of a kind of squalor in the whole area of coexistence in the community, itself generating distrust and especially fear for the future. As has been stated earlier, what is put in jeopardy is the social capital that a given community is able to draw upon. It need hardly be said how essential this is for civilised coexistence and, it must be added, for the business organisation itself.

This state of affairs causes outstanding problems for the company or concern, that not only has the greatest of difficulty in counting on the contribution of its customers for the co-production of a quality service, but is also faced with having to deal with the impact from within and without of badly behaved customers (See Figure 1).

Figure 1 – The victims of bad customer behaviour

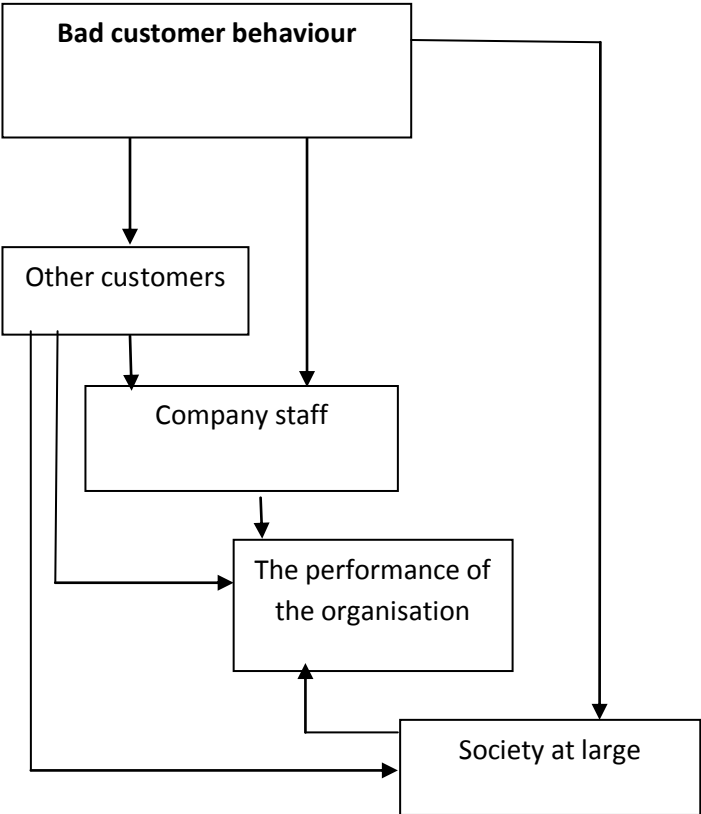
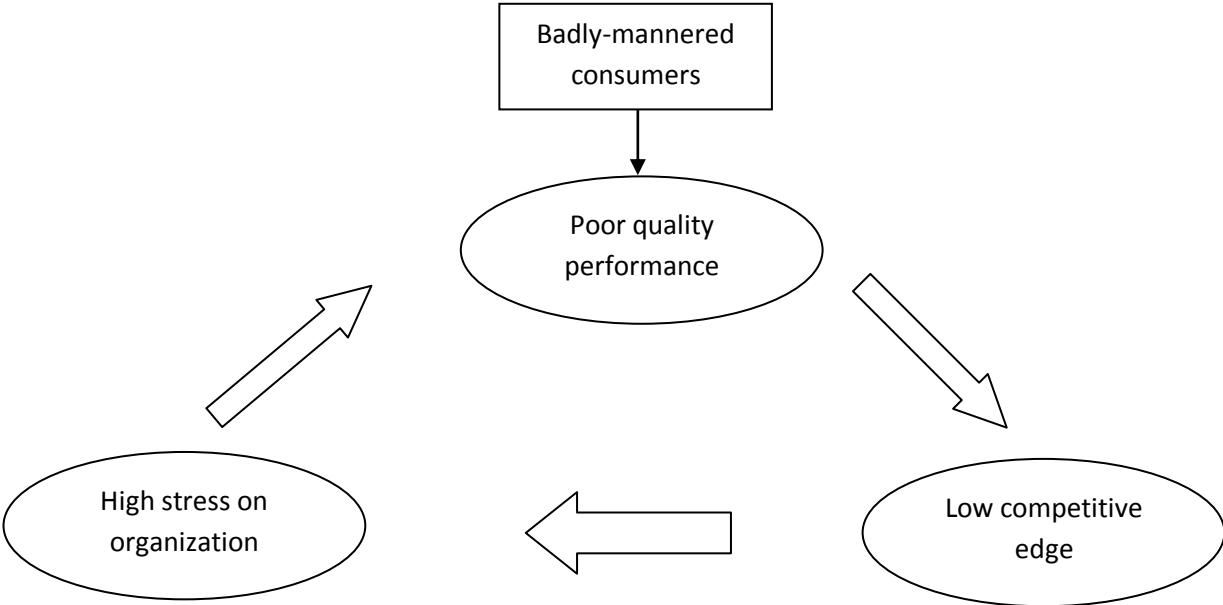


Figure 2 – The vicious circle of bad customer behaviour



## 5. Consumer rudeness: an organization's problem, a solution from the organization?

As for rudeness within the company, there are two approaches that can be taken, i) that of prohibiting, controlling and cracking down on it or ii) that of spreading an awareness and culture among the staff.

Choosing not to follow the first path, without going so far as to say that it is not without its merits, this work will concentrate exclusively on the latter approach.

To combat in particular bad customer behaviour and its negative consequences, it should be considered whether it is reasonable for entrepreneurial organisations to take up an "educational" approach. The issue can be addressed by an examination of questions such as the following.

- a. What does it mean to "educate customers"?
- b. Is it in principle acceptable to allocate an educational role to a business organisation?
- c. How could such a role be played out? What are the most effective types of conduct that should be suggested?

### *a) What does it mean to "educate customers"?*

To answer this question, two preliminary questions have to be addressed, the first the role of the customer in the production of the service and the second what meaning has to be attached to the term "education".

As regards the customer's role in the production of the service it has been for some time emphasised in the literature, and is supported by everyday experience, that the customer is a pro-user, in the sense to a great or lesser extent takes an active part in the production of the service (Normann, 1992).

It is not our intention here to dwell excessively on something that has become an established feature of service management and quality.

We do however deem it worth repeating that the company has taken on the onus of entering into "dialogue" with the customer so as to render him or her of the role they play and in part introduce them to the production processes of the business.

We should also pause to say that when we speak of the "education" of the customer we are not referring to this type of "dialogue" between the enterprise and the customer. It is taken as read that every business operating in the service sector to great or to lesser effect does in fact do this, if for no other reason than that of the technical requirements of production which assign certain roles to the consumer.

The "education" in question here goes beyond this "dialogue", which as we say is not in dispute, albeit being practiced with greater or lesser degrees of success.

The other premise is on the hand required to clarify which of the possible meanings of the term "education" we have decided to adopt.

There are in reality at least three meanings to be ascribed to the term “education”:

- i. the transmission of moral and cultural values from one generation to another;
- ii. the process of acquiring special skills in the area of knowledge;
- iii. the ability to observe correct conduct in dealings with other persons.

What we are considering does not take in definition ii) which follows a logic of knowing how to do rather than knowing how to be, save the area of “civic education” whereby people are taught of the legal and socio-political principles upon which living in a community and in relation to its institutions are based.

For our purposes the idea of education is that in iii) above, with regard to propriety, manners, politeness, kindness, refined and gentlemanly conduct, etiquette and civilised behaviour when using a service that is used at the same time by many other persons.

This usage does not excluded the use of the term as in i) above, which is a necessary step for the achieving of good manners.

The horizon within which in particular the enterprise should operate in this area is that of identifying the ways in which customers can be brought to recognise the value of good behaviour in relation to others, the advantages that are to be gained for the operation of the service as a whole and hence for each of its stakeholders.

From this point of view much weight will be put on the question of reciprocity as regards good manners and correct conduct.

By proceeding along this path the company can take on the negative effects of bad manners as previously described. Such effects are capable producing the serious risk of underestimating the destructive power of bad manners by perceiving of them as mere off hand but relatively unimportant conduct as compared with decidedly deviant behaviour, which latter is paradoxically more easily combated with its more obvious negative impact.

Which forms do however such bad manners actually take? As has already been said, they are manifest in impoliteness, rudeness, insolence, boorishness, arrogance, being off-handed, impertinence, vulgarity, lack of civility and general incivility. Such conduct impacts negatively on the quality of the service as perceived by those that use the service and at the same time by those approaching the service in the future, where such behaviour has had a negative impact on the service such that, as often happens, it affects the structures through which the service is channelled and produced.

To educate customers therefore means working to curb improper conduct.

It means working in this sense because all customers recognise the value of freedom, recognise the right of others to use the service at its pro-tem state of optimal quality.

It means taking steps into the garden of cultural and moral values, where freedom is the seen as the broadest expression of the general good.

In this sense good manners walk the path of sustainability, in the sense the term is used by Amartya Sen in his “The Idea of Justice”, where sustainability is not just the preservation of the standard of living for future generations, but involves the protection of



their freedom of choice in relation to things that they, not we, regard as worthy of preservation (Sen, 2009).

Good conduct on the part of the customer thus operates within the tiny context of a service as a seed in the field of respect for the freedom and rights of others, according to a logic that reaches out from the individual everyday action to those of the community at large, contributing to the reconstruction of a civilised social fabric.

b) *The subsequent question led us to ask whether this could be a task for the entrepreneurial organisation, given that usually this role is one fulfilled by the family and the institutions*

A reductive approach to the problem would be to seek out the guilty party responsible for the state of affairs described in previous pages where we have sought to frame this sociological phenomenon in a managerial class.

It would be easy, but useless, to find a scapegoat and just say that all the problems are those of “society” in general or “the system”, according to a logic where nothing is other than simply an end in itself.

By pointing the finger at the failure of schools or of the family, we will not, even they are responsible, solve the problem, still less in the short term.

In truth, if business has taken upon itself the right to create styles of conduct that guide the actions of persons and lead them along paths paved with feelings of impotence, and if they have done so in despotic ways that invade personal life, there is no reason to suppose it cannot now contribute to restricting such egocentric and depressing values of consumerism for its own sake, largely of its own making.

But why should it do so?

Because it could thus perform a constructive role in society?

A few might be inclined to this view, but not many.

The real driving force for action can only be that of gaining a competitive edge and hence an economic advantage.

A business concern should do so for the simple reason that the first competitor to grasp this challenge will have qualities that the others lack. That is the bottom line.

Why should any company be the first to take the first step along this road. The answer is because people, as can be seen from a variety of signs that are blowing in the wind, appreciate those who take up arms for direct action designed to recover lost ground by restoring a civic sense and the sense of belonging to a community.

Will they be up to the task? That is indeed another question.

The business concerns do however have in their armoury a great strength that they can draw on, and that is the language of the consumers, a language that they themselves have helped to generate.

It will not in any case be the scale of the problem that will halt the processes of innovation, history shows us that even the most improbable task in business may prove possible.

All that is needed is one thing, to want to do it, and for this the real conviction that the approach will lead to a competitive advantage.

In reality, and although the cases are not numerous, some businesses in current industry have already started on this path, including Barilla the pasta manufacturers, which has established a “sustainability” project in seven areas in which the Community division supports an educational approach aiming to promote healthy living, exercise, good diet and responsibility for the environment.

There are also examples of “consumer education” to be found in the service sector, where for instance the COOP is proposing a thirty year plan of Education for the Well-informed Consumer. This project goes beyond the development of a critical sense that informs the consumer in his choices, to embrace such themes and citizenship, cultural diversity and legality.

The answer to the albeit in direct question has to be that true, innovative enterprise that is willing to look to the long term will not let this opportunity slip, and there are already companies for which such courses of action form part of their *modus operandi*.

*c) What advice can be offered to business concerns intending to embark on this course of action?*

Having reached this point we would be failing in our duty if we were not to suggest possible approaches to a programme to educate the consumer to act in accordance with good manners, even if only by providing some preliminary ideas.

Before starting on such a task it is already clear that this will not be easy, for the simple reason that it presupposes that there is the strength and means available to encourage and produce well-mannered conduct on the part of the customer.

The customer is however the person that the marketing department placed above any possible evaluation leading him, as such, to be able to conduct him or herself as he pleases irrespective of the effect that the behaviour may have on other consumers.

Alongside strength and means there is also a need for a subtlety of action with recourse to knowledge-based paths.

Including that is knowledge that “no man is an island” (as conceived by John Donne and Thomas Merton) and hence that the quality of the society in which we live depends on the interactions of each member of the community or, in the case of an individual service, each participates in the production of the service together with each of the others.

This awareness brings with it the indirect advantage of increasing the indignation customers may feel when faced with bad behaviour on the part of other customers.

Such indignation is slow to make itself manifest, as people prefer a quiet life, though it does have a negative impact on perceived quality and consequentially on the competitiveness of and on the reputation of the enterprise in question.

This leads the customer to silently vote with his feet and choose other producers where the service is produced in a competitive environment. It may on the other hand lead to a growing sense of resignation in the consumer where the services are public and operating under essentially monopolistic conditions. Such resignation will however break and overflow into open conflict and tensions in relations with front line staff that often lack the means or ability to solve problems where high levels of emotional intelligence are required (Goleman, 2006).

To get beyond the idea that anything goes, a reaffirmation is needed of the relationship between rights and duties, where rights are irrevocably bound to a series of duties that ensure these rights, though in reality rights and duties are just two sides of the same coin (Bobbio, 1990).

This means also having to get over that misplaced sense of respect that ends with the justification of the choices of others even where they visibly and demonstrably damage the individual's own rights or those of others.

All things considered, the problem of customer bad manners can be dealt with by means of checks and penalties, but this is only possible with increased company control that is disapproving of such conduct in such circumstances.

The company and its staff can never take the place or exercise the role of social control as commonly accepted rule of people living together in the community, according to forms of "positive conformism" that emphasises the power of the environment from which behaviour develops (Rampini, 2011).

The business enterprise may however do much to generate the desired behaviour by communication that makes clear the extent of the community and is able to touch a chord with the individual of the importance of his being a part of a community.

What emerges from our observations is the need for communication that is at once intense and penetrating, while being subtle, simple and attractive designed to cause people to reflect and to act in harmony with what can be regarded as a common asset or value.

The problem is a long way from having been solved. Quite apart from the differences in viewpoints on the evaluations brought to the table, the construction of communication of such kind is confronted by the whole gamut of linguistic delicacy and terminology that has the ability to change the world, but may do so in one way or in quite another.

One route that could be followed is that of art, in itself capable of touching the individual and leading him or her to reflect on the improvement that could be gained to the quality of life that simple respect could bring with it, with no cost to anyone.

This may be done by tapping in to people's creative intelligence, to their ability to explore every aspect of what is beauty.

The reality is that it does not take much to change conduct, sometimes all that is needed is just a few words and a few images, while the difficult thing is to frame these words and images successfully. Difficult but not impossible.

## References

Axia Giovanna (1996), *Elogio della cortesia. L'attenzione per gli altri come forma di intelligenza*, Il Mulino, Bologna

Berry Leonard L., Seiders Kathleen (2008), "Serving unfair customers", *Business Horizons*, vol. 51, 29-37

Bobbio Norberto (1990), *L'età dei diritti*, Einaudi, Torino

Fisk Ray, Grove Stephen, Harris Lloyd C., Keeffe Dominique A., Daunt Kate L., Russell-Bennet Rebekah, Wirtz Jochen (2010), "Customers behaving badly: a state of the art review,

research agenda and implications for practitioners”, *Journal of Services Marketing*, 24/6, 417-429

Fullerton Ronald A., Punj Girish (1993), “Choosing to Misbehave: a Structural Model of Aberrant Consumer Behavior”, *Advances in Consumer Research*, vol. 20, 570-574

Fullerton Ronald A., Punj Girish (1997), “What is Consumer Misbehavior”, *Advances in Consumer Research*, vol. 24, 336-339

Fullerton Ronald A., Punj Girish (2004), “Repercussions of promoting an ideology of consumption: consumer misbehavior”, *Journal of Business Research*, vol. 57, 1239-1249

Ghoshal Sumantra (2009), *Una buona teoria manageriale. Le imprese, il profitto e il bene della società*, Il Sole 24 Ore, Milano

Goleman Daniel (2006), *Emotional Intelligence*, Bantam Books, New York

Harris Lloyd C., Reynolds Kate L. (2003), “The Consequences of Dysfunctional Consumer Behavior”, *Journal of Service Research*, Vol. 6, No. 2, 144-161

Lovelock Christopher H. (1994), *Product Plus: How Product + Service = Competitive Advantage*, McGraw-Hill, New York

Mintzberg Henry (1989), *Mintzberg on Management: inside our strange world of organizations*, The Free Press, New York

Normann Richard (1992), *La gestione strategica dei servizi*, Etas Libri, Milano

Rampini Federico (2011), “La squadra. La qualità della società in cui viviamo dipende dall’interazione fra di noi”, *D La Repubblica delle Donne*, 11<sup>th</sup> June

Sen Amartya (2009), *The Idea of Justice*, Penguin Books, London

Sennett Richard (2007), *The Culture of the New Capitalism*, Yale University Press

# Waiting Lists in a Public Health Service: a Fact of Life or Time for a Change?

Baldantoni Enrico, Torri Emanuele  
APSS Trust - Trento (Italy)

## Introduction

Long waiting times for outpatients planned (non urgent) appointments are a common weak area of all healthcare systems, especially those publicly funded. To live up to rising expectations of better access, improvement should focus on stake-holders involvement, systems integration and quality outcomes measurement

## Objectives

Improve community/citizens satisfaction through timely access to out-patients services

## Methods

Healthcare Trust of Trento (APSS) manages 13 health care districts, 2 hub and 5 spoke hospitals (1.800 beds), serving nearly 520.000 inhabitants of the Trentino Region. Ambulatory outpatients services make up around 11% of the corporate budget (over 1 billion euro). APSS since 2001 has implemented EFQM Excellence Model as it's governance/quality framework to drive process management into the whole system. A systematic process review in 2003 led to target the reduction of waiting times for ambulatory speciality services (diagnostic procedures and clinical specialty visits) as a key improvement area. Over the last 7 years, several system wide actions have been implemented:

- partnering with clinical specialists to share guidance, procedures and clinical pathways for services development
- linking performance to financial incentives
- increasing physicians productivity and capacity in some areas
- ensuring central role of frontline managers in leading daily improvement efforts
- strengthening, through management of contractual agreements, strategic alliances with private partners
- operating through a centralised provincial booking and management platform for all outpatients services, moving forward transparency and efficiency
- adopting clinical priority system to manage access to first visits and crafting integration of clinical informative systems, involving GPS
- monitoring (ex-post and ex-ante), reporting with periodical feedback on organization's performance related to each improvement goal targeted to waiting times for outpatients
- involving patients NGOs in feed-back

## Results

Performance and perception measures of timeliness of service delivery, representative of the improvement effort carried out by APSS, have been trending in the right direction over time. EFQM based self-assessment (2009 versus 2003) and external audits depicted a remarkable improvement in Factors and Results areas related to waiting times management process. Key performance data on the mean wait for the main tracer diagnostic procedures and specialty visits, comparing 2010 versus 2005 (earlier data were not collected in a comparable way), show encouraging gains, as seen in the example below.

<i>Type of procedure or visit</i>	<i>2005 (mean wait in days)</i>	<i>2010 (mean wait in days)</i>
Colonoscopy	97	41
Head Computerized Tomography	50	16
Abdominal ultrasound	99	20
Spine MRI	85	14
Stress EKG	72	34
Ophthalmology	104	37
Orthopaedics	72	22

Benchmark with other Italian Healthcare Trusts, although not systematic, shows that APSS is leading in many in many performance measures of timely access to planned ambulatory services. Considering patients satisfaction results, claims forwarded for excessive waiting times dropped either in total number (144 in 2009 versus 889 in 2003) and in percentage of total claims (15% in 2009 versus 72% in 2003). On the other hand, phone surveys carried out with comparable methodologies on a stratified random sample of 1.500 resident citizens confirmed a rising percentage of people satisfied towards waiting times for outpatients services: from less then 20% in 2003 to 57% in 2009

#### **Conclusions:**

We think that an integrated approach to quality improvement, based on EFQM quality model, with an incremental approach and based upon building networks between professionals can ensure positive, and sustainable improvement in outpatient access to ambulatory services. Our focus now is on improving further current results and implementing clinical pathways to improve comprehensive patient management and further reducing delays and waits along the chain of ambulatory care.

# DEVELOPING ADAPTIVE E-LEARNING PORTAL IN HIGHER EDUCATION

Dušan Barać, Faculty of Organizational Sciences, University of Belgrade, dusan@elab.rs  
Zorica Bogdanović, Faculty of Organizational Sciences, University of Belgrade, zorica@elab.rs  
Aleksandar Milić, Faculty of Organizational Sciences, University of Belgrade, milic@elab.rs  
Branislav Jovanić, Institute of Physics, Belgrade, brana@ipb.ac.rs  
Božidar Radenković, Faculty of Organizational Sciences University of Belgrade, boza@elab.rs

## Abstract

This paper describes an adaptive web portal for e-learning in higher education. Portal is single access point to all relevant information, resources and applications in the education process. Primary goal of this paper is development of adaptive e-learning system by integration of adaptation services and existing e-learning management system, Moodle. Adaptive web portal provides support for learning, communication and interaction, in a personalized way. E-learning courses adaptation is reflected in: adaptation of presentation materials, methods of communication, interaction, and collaboration, according to requirements and characteristics of students. We describe sophisticated adaptive mechanism that generates series of instructions for creation, organization and implementation of adaptive courses, based on student model. Adaptation services are developed by using business intelligence tools and various adaptation techniques. Adaptation is implemented on the basis of three criteria: students' knowledge about the area being studied, students' learning styles and students' learning goals. We provide detailed description of adaptive portal's architecture, as well as design and implementation of key components. Adaptive web portal will be implemented in a real system for e-education at the Faculty of Organizational Sciences, University of Belgrade.

**Keywords:** Adaptive web portal, e-learning system, adaptive e-learning course, Moodle LMS.

## INTRODUCTION

E-education systems provide various types of learning resources: tutorials, e-books, scientific articles, etc. Discovering adequate learning materials becomes one of key issues in these systems [7]. At the same time each learning resource has some specific characteristics, when it comes to way of presentation, areas of interest, structure of content, etc. Learning Management Systems (LMS) stand out as the most appropriate software solution for the implementation of e-education. Learning Management Systems are environments that enable users to create, insert, manage, search and reuse small units of content and learning objects. Currently, there are many different LMS platforms. According to numerous researches Moodle is one of LMSs with the most functionalities and services [13][14]. Moodle is flexible for implementing new components and integration with other systems and technologies [6][13][14].

Main subject of this paper is development of model and services in web portal for adaptive e-education. Central issue discussed in this paper is to examine possibility of integration of different services for adaptation and modern learning management systems.

## PROVIDING ADAPTIVITY IN E-LEARNING SYSTEMS

Adaptivity of e-learning courses is reflected in the adaptation of forms of learning materials presentation, methods of communication, interaction, collaboration, organizing pace of courses in accordance with requirements and characteristics of students [2][8][9][10]. Adaptation techniques are [2][8][9]: adaptive interaction, adaptive content delivery, adaptive content discovery and creating, adaptive collaborative support. E-learning systems incorporate the concept of adaptivity through the development of a model of a

student [8]. Model of a student includes information about learning objectives, prior knowledge, pace of learning, behaviour, way of interaction and communication [2]. Student modelling is the process whereby an adaptive learning system creates and updates a student model by collecting data from several sources implicitly (observing user’s behaviour) or explicitly (requesting directly from the user). Adaptation we implemented in the study is based on three factors:

- Learning style
- Preknowledge in area of studying
- Learning goals and expectation

In order to gather data about these factors, we developed questionnaires and tests. Students’ preknowledge is assessed by tests with 20 questions from domain area. Based on test results every student is classified as: beginner, intermediate or advanced. Information about learning goals and expectation are gathered via questionnaire.

Analyzing adaptability in an e-learning system has explicitly pointed out the importance of the modelling learners’ cognitive characteristics, particularly learning styles as the most explored cognitive features[1][3][13][14]. There are several different learning style models presented in literature; however, Felder-Silverman Learning Styles Model (FSLSM) is often used for providing adaptability regarding learning styles in e-learning environments [11]. Felder-Silverman model describes a single student along four dimensions: 1) Active and reflexive learning style; 2) Sensitive and intuitive learning style; 3) Visual and verbal learning style; 4) Sequential and global learning style.

Questionnaire to determine learning styles was created by adjusting the Index of Learning Styles Questionnaire [11]. This instrument is used to determine students’ preference for each of the dimensions of Felder- Silverman model. The questionnaire consists of a 44 questions, where each dimension corresponds to Learning Styles 11 questions with the available options (a and b, for example. reflexive and active). ILS has proven to be successful in the identification of learning styles. However, in order to use the ILS to determine the learning styles of students in system for e-learning, it is necessary to adjust the questions so you can connect with appropriate activities that take place on e-learning courses.

In this study, the authors used a customized version of the questionnaire for students in e-education. Total 28 questions were taken from the ILS, and 16 questions were replaced with new (4 for each learning style dimension). New questions are related to attitudes and activities that are specific in e-learning environment and different from those in the traditional education system. For example, question related to student’s activities while working together to solve complex problems with answers, "jump in and contribute ideas" and "sit back and listen" is replaced with a question about the discussion forum with answers, "actively participate and contribute to the discussion" and "I read messages but do not participate in the discussion". We performed adaptation of courses, based on data collected through described tests and questionnaire, Figure 1 presents typical learning path of student which was classified as visual and active learner, with beginners’ preknowledge.

- LU1 – Introduction in e-business
- R1- multimedia presentation
- R2- multimedia presentation
- R3- multimedia presentation
- AC1 – assignment
- AC2 - video lesson
- C1 –face-to-face
- AS1 – multimedia test about e-business comoponents and applications

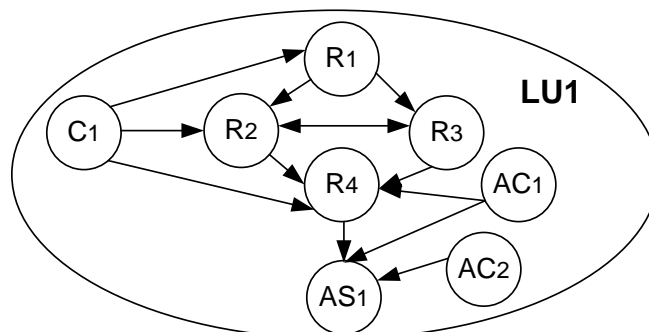


Fig. 1. Learning path of a “visual - active” student through learning unit on e-business course



Adaptive web education systems (AWES) have been developed on the basis of theoretical concepts of adaptive hypermedia [2][8]. Adaptive e-education systems are focussed on adapting learning courses to characteristics of individual users. However, these systems have a few drawbacks [5][8][13][14]. First of all, creation of such systems and their integration into educational process is quite complex and rather expensive process that requires high level of involvement of all users. One of the most common problems is the inability to reuse created learning resources. Basic features of e-education system, such as: administration of courses, learning content, etc., is complex to use in adaptive systems. There are no common services for communication and social interaction among participants in e-education.

On the other hand, LMSs are focused on the support for all processes in e-education [7][9]. Main goal is to enable users to use appropriate services that facilitate organization of teaching and learning processes. At the same time, communication tools such as forums, chats, wikis, etc. improve interaction during courses realization. LMSs support a number of different activities related to learning, while the AWES systems focus on content organization and presentation.

The key issue in adaptive systems is related to architecture and implementation of systems, rather than adaptation itself. On the other hand, LMSs do not provide an adequate degree of learning content and services adaptation [9][13]. Solution we discuss in this paper is based on integration of services for adaptation and existing learning management systems, but without developing new adaptive e-learning system.

## **WEB PORTAL FOR ADAPTIVE E-LEARNING**

### *Educational web portal*

One possible approach for integration of heterogeneous e-learning system components is through a web portal [4],[10],[12]. Web portals are complex sites that combine different information from multiple sources and provide access to numerous applications. Educational web portal is a single access point to all relevant information, resources and applications in the education process. Main requirements an educational web portal should fulfil are to [12]:

- give students easy access to diversity of useful information and students' services;
- open lines of interaction among the community users;
- allow both students and teachers to share information for common class activities
- provide a tool for faculties and universities to innovate teaching and a tool for students to experience alternative forms of learning.
- use a single consistent web-based front end or interface to present information from a variety of resources.

Primary role of educational web portal in this research is integration of e-learning system components and services that provide adaptation. Web portal should have modular architecture, i.e. enable easy implementation of additional components. Existing Moodle LMS for e-learning should be enriched with additional services for managing communication, and content management, etc. It is necessary to develop adaptive mechanism that is capable to generate set of instructions for creating, organization and realization of adaptive e-learning courses, based on student model. Adaptation of learning resources and activities is based upon: learning styles, students' preknowledge and interaction with system.

Home page of web portal for e-learning at Department for e-business, Faculty of Organizational Sciences, University of Belgrade is presented in Figure 2. All the courses, we conduct, are realized via portal and Moodle LMS. Area of studying include: e-business, internet technologies, internet marketing, mobile business, risk management, simulation, etc.

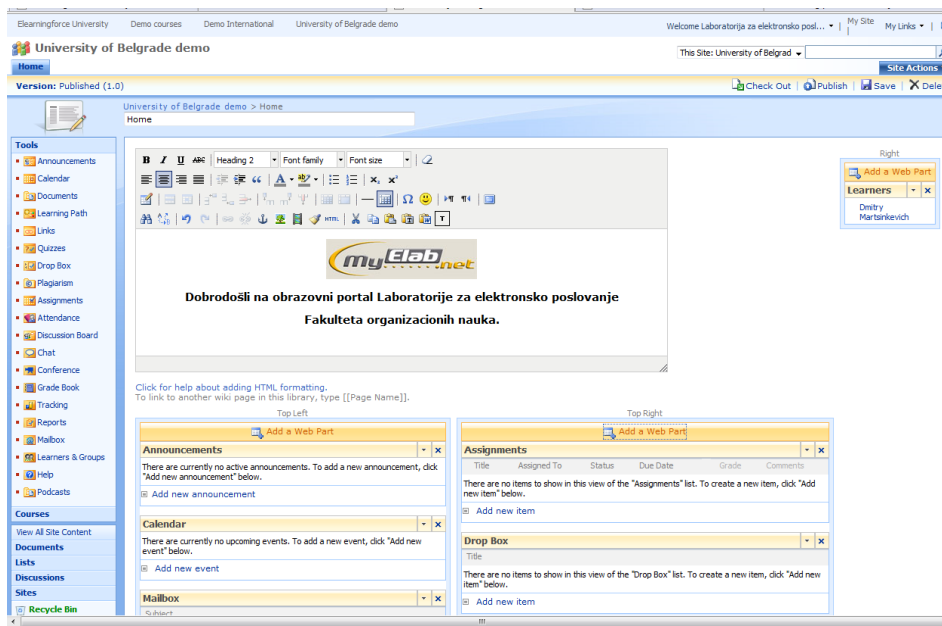


Fig. 2. Home page of e-learning portal

### Model of architecture of portal for adaptive e-learning

Conceptual model of architecture of portal for adaptive e-learning is shown in Figure 3.

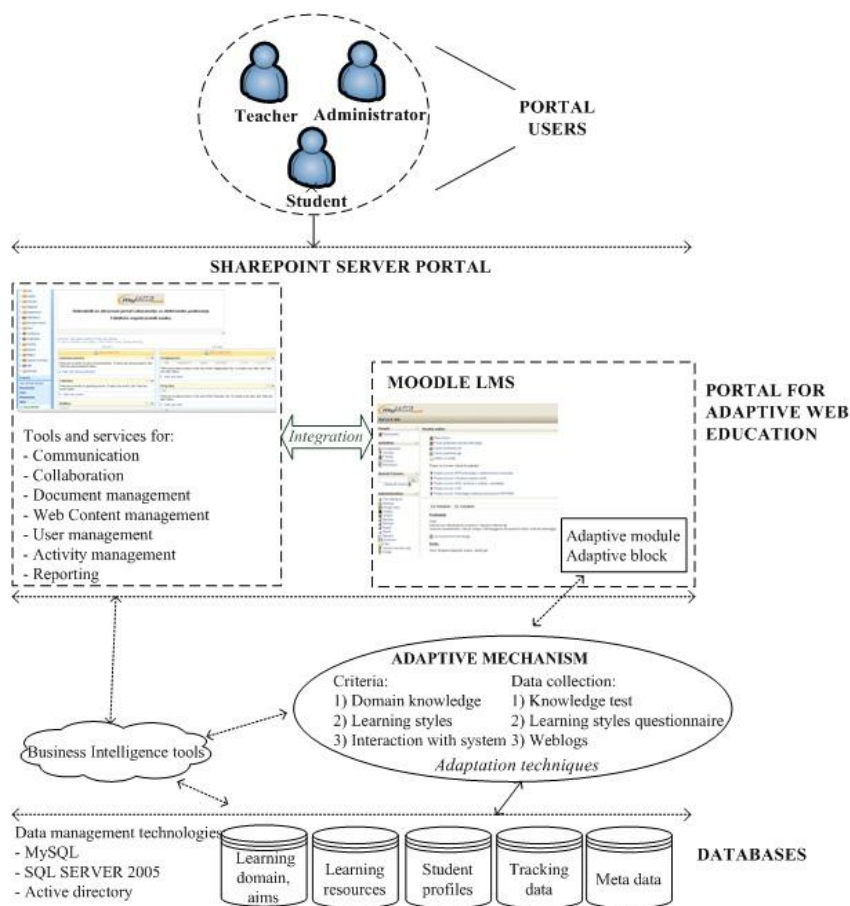


Fig. 3. Architecture of adaptive e-learning portal

Key part of the system is educational web portal as aggregator and integrator of all components. Web portal was developed using Microsoft SharePoint Server 2007. This solution provides a framework for collaboration (email, calendar, blog, instant message, alerts, and contacts) and content management system. One of the most important advantages of this software platform is qualitative support for scientific research and team collaboration. Web portal communicates with different components in background and provides adequate content for users.

An approach we used in developing educational portal for adaptive e-learning is based on implementing functionalities for adaptation in a separate application [4][10]. Adaptive mechanism provides services on demand. Services for adaptation are provided using business intelligence tools and adaptation techniques listed in the text above.

One of key requirements was not to change Moodle LMS solution core, but to develop application that would be independent of particular LMS. Implementation is realized through following:

- PHP application that implements adaptive mechanism
- New Moodle LMS block and module that would present adapted learning objects and activities
- Extend existing Moodle LMS database by adding new tables

### *Integration of educational services in portal for adaptive e-education*

In Fig 4. integration of educational services in portal for adaptive e-education is presented.

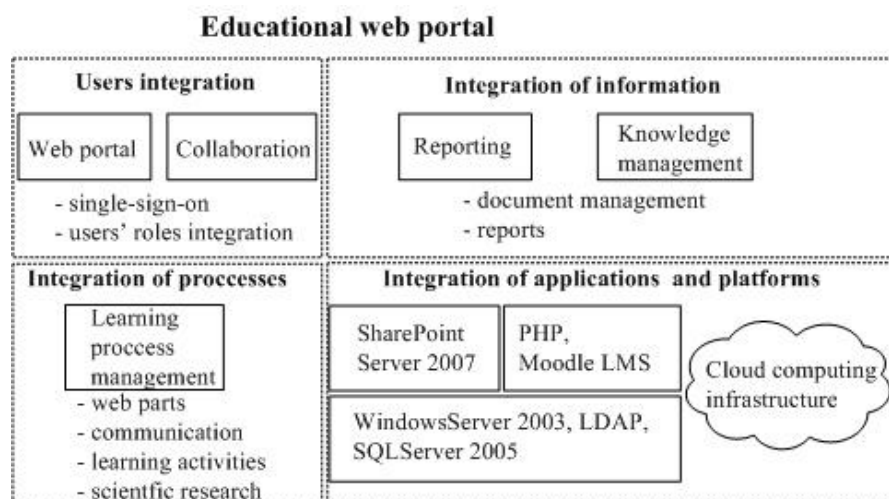


Fig. 4. Integration of educational services

Integration is realised through the following components:

- 1) Integration of users – single access point to all relevant information, resources and applications in the education process (single-sign-on). It allows that a registered user in a directory server can use an only one password for the web portal and Moodle platform, where the process of synchronization of the existing users occurs in a transparent way for the user. By doing this, a seamless integration is given to the user between the two systems, and as mentioned above, he shouldn't even be aware that two separate systems are being used.
- 2) Integration of information
  - a. All documents that are uploaded to Moodle LMS can be managed from educational portal - advance functionalities for document management can be used for managing learning resources that are created and uploaded to Moodle LMS. Web portal contains versioning capabilities that the Moodle file system does not. This means if a teacher or administrator accidentally or purposefully overwrites a file in Moodle (e.g. updates a homework assignment with new content), web portal retains both the original version of the file and the

updated version in case the teacher or someone else would like to access the original file. Web portal software solution contains rich search capabilities. This enable teacher to search for file content across all of the various Moodle classes an institution has.

- b. Microsoft Office add-in for Moodle LMS – all MS Office documents can be automatically uploaded to particular web address within Moodle LMS. It allows teachers to open and save Word, Excel, and PowerPoint documents to a Moodle website. They no longer need to use your web browser when working with Office documents stored in Moodle.
- 3) Integration of processes – various web parts that enable monitoring of Moodle learning activities from educational web portal, as well as creating reports, synchronization of communication tools. Each of features is shown as a web page part: Course Overview, My Teaching Courses, My Courses, Latest News, Messages, Online Users, Online Students, My Scheduled Assignments, My Supervised Assignments. They consist out of several web parts, a web service and a data access layer. The data access layer is responsible for connecting the web service with the underlying database used for storing the Moodle data. The web service provides a SOAP interface accessed by the web parts to retrieve data out of the Moodle system.
  - 4) Integration of applications and platforms – integration of Moodle LMS and application that provides services for adaptation is implemented through common MySQL database. Several new tables were created, while some tables in existing Moodle LMS database are extended with additional fields. Presentation of adapted learning resources is implemented via module and block developed within Moodle LMS courses.

#### *Adaptation mechanism of educational services*

Application that contains services and features for adaptation is substantial part of the e-learning system. Adaptive mechanism provides adaptation of the following objects in Moodle LMS:

- E-learning course
- Group for learning in the scope of course,
- Learning resource (label, web page, file, link, directory, etc.)
- Learning activity (assignment, forum, choice, lesson, wiki, quiz, etc.)
- Student's profile

By integrating educational portal's services (services for communication and collaboration, reporting services, document management system) and adapted learning objects in Moodle, e-learning system achieves higher efficiency and coordination of students' and teachers' activities.

Services that are substantial part of adaptive mechanism:

- Service for defining goals and constraints in the scope of e-learning system
- Service for creating, viewing and managing questionnaire. In this part teacher defines criteria and parameters for adaptation of learning courses
- Service for grouping students into groups for learning
- Service for adapted learning objects presentation

Fig 5. shows mechanism for classifying students into groups based on different criteria. Teacher defines goals and characteristics of each group and manages grouping process.

Grupa	Opis grupe	Kurs	Raspored
N-TG1/1 1g		Opšti kurs A1 (prvi deo)	
E-SFp 1g	Osnovne studije IT	Opšti kurs B11 (prvi deo)	
E-SFi 1g	Osnovne studije MN	Opšti kurs B12 (drugi deo)	
E-SFe 1g	Poslediplomci 1	Opšti kurs A2 (prvi deo)	
F-AE3/1		Opšti kurs B1 (prvi semesta)	
LD3/1			

Fig. 5. Mechanism for classifying students into groups

Figure 6 presents mechanism for creating questionnaires and tests.

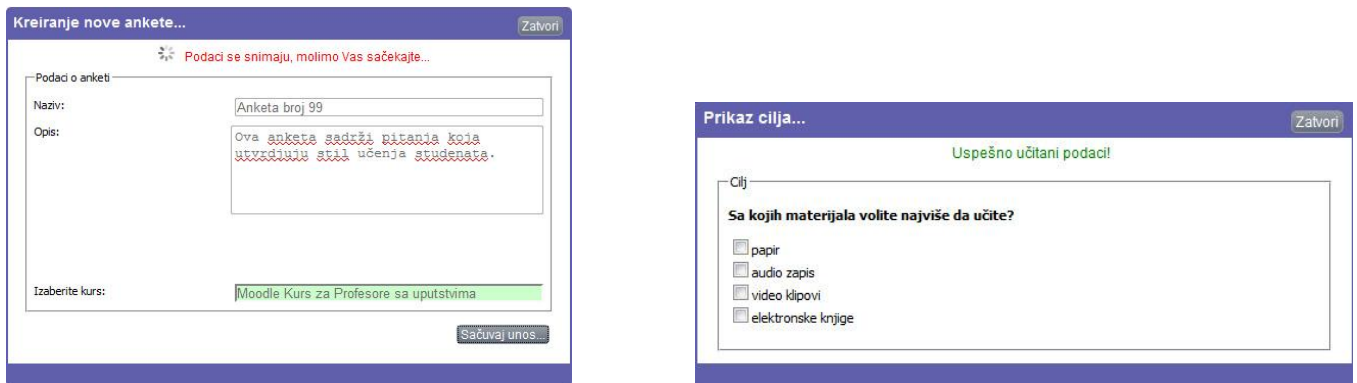


Fig. 6. Mechanism for creating questionnaires and tests

Figure 7. shows mechanism for learning resources (text files, presentations, audio and video presentations, etc.) adaptation. Teacher can choose learning material for adaptation; define aims and criteria for adaptation.

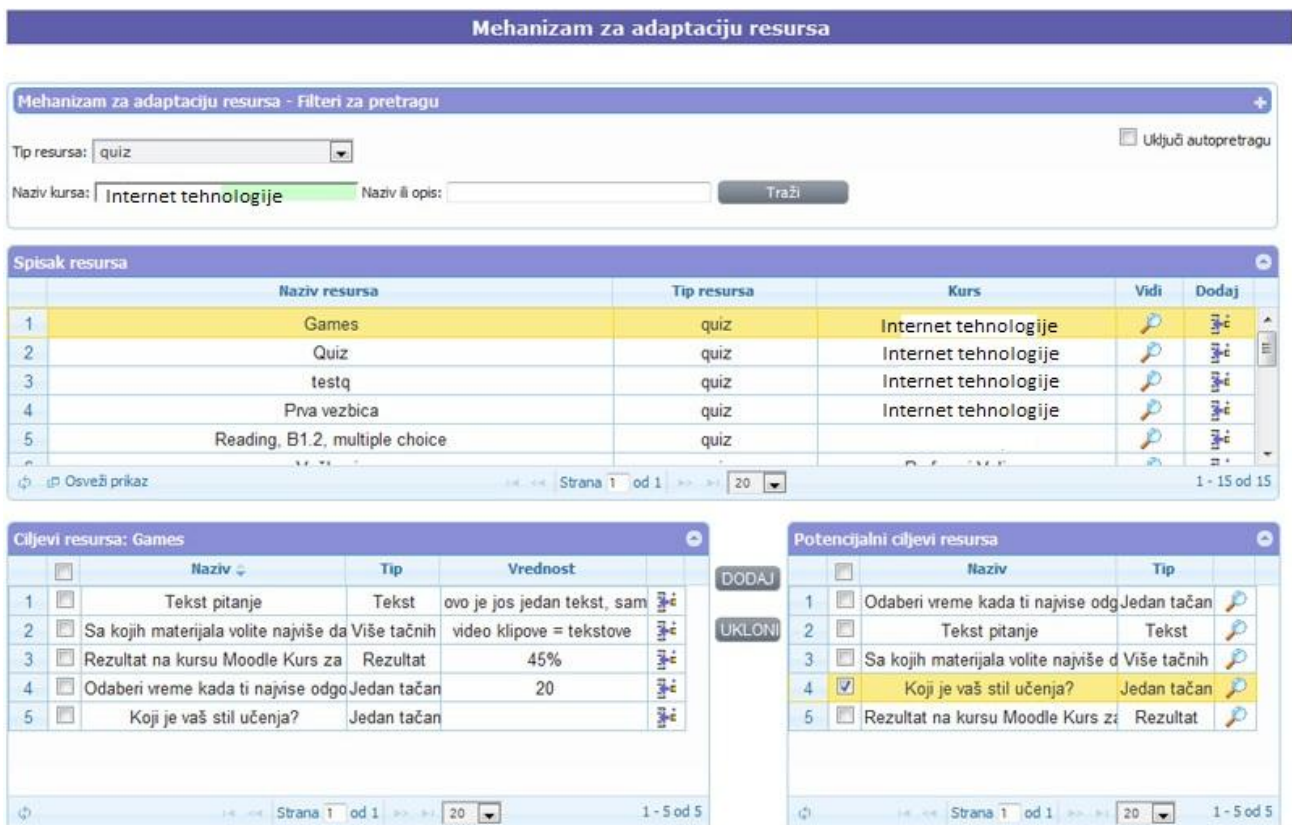


Fig. 7. Mechanism for teaching resources adaptation

## CONCLUSION

We proposed an approach for implementation of a web portal for adaptive e-learning. Portal is implemented through integration of services and applications that enables collaboration and communication among users in e-education system, realization of all teaching activities, as well as

adaptive functionalities. We presented adaptive mechanism that provides adaptivity of e-learning courses with respect to student's preknowledge and learning styles.

Evaluation of the system should provide additional information about users' experience in using the system, as well as data about web portal's performance and impact on learning process outcome. Future researches are directed toward improving adaptation mechanism and automation of adaptation process, as well as complete integration of all processes in adaptive e-learning system.

#### ACKNOWLEDGEMENT

The authors are thankful to MNTRS for financial support grant number 174031.

#### REFERENCES

- [1] A. Franzoni, and S. Assar, "Student Learning Styles Adaptation Method Based on Teaching Strategies and Electronic Media", *Journal of Educational Technology & Society*, vol. 12, no. 4, pp. 15-29, 2009.
- [2] A. Martins, C. Faria, L.Vaz de Carvalho and E. Carrapatoso, "User Modeling in Adaptive Hypermedia Educational Systems", *Educational Technology & Society*, vol. 11, no. 1, pp. 194-207, 2008.
- [3] E. Alfonseca, R. Carro, E. Martín, A. Ortigosa, & P. Paredes. The impact of learning styles on student grouping for collaborative learning: a case study. *User Modeling and User-Adapted Interaction*, 16 (3-4), 377-401, 2006.
- [4] E. Prodromou and N. Avourise, "E-Class Personalized: Design and Evaluation of an Adaptive Learning Content Management System", *Artificial Intelligence Applications and Innovations*, Springer Boston, vol. 204/2006, pp.409-416, 20.
- [5] M. Despotovic, A. Markovic, Z. Bogdanovic, D. Barac & S. Krco. Providing Adaptivity in Moodle LMS Courses. *Educational Technology & Society*. (paper accepted for publishing), 2011.
- [6] M. Despotović, Z. Bogdanović, D. Barać and B. Radenković, "An application of data mining in adaptive web based education system", *The Seventh International Conference on Web-Based Education, Conference Proceedings*, pp. 394-399, Innsbruck, Austria, 2008.
- [7] N. Hoic-Bozic, V. Mornar and I. Boticki, "A Blended Learning Approach to Course Design and Implementation", *IEEE Transaction on Education*, vol. 52, no.1, pp. 19-30, 2009.
- [8] P. Brusilovsky, "Adaptive hypermedia", *User Modeling and User Adapted Interaction*, Springer Verlag vol. 11, no. 1/2, pp. 87-110, 2001.
- [9] P. Brusilovsky, A. Kobsa and W. Nejdl, *The Adaptive Web: Methods and Strategies of Web Personalization*, Springer, 2007.
- [10] P. Brusilovsky, Knowledge tree: A distributed Architecture for Adaptive E-learning. *WWW2004*, New York, USA., ACM. 104-113, 2004.
- [11] R. Felder, L. Silverman, "Learning and Teaching Styles in Engineering Education". *Journal of Engineering Education*, 78(7), pp. 674-681, 1988.
- [12] S. Berhe, S. Demurjian, H. Ren, M. Devineni, S. Vegad and K. Polineni, "Axon – An Adaptive Collaborative Web Portal", *3rd Int. Workshop on Adaptation and Evolution in Web Systems Engineering, Conference Proceedings*, 2008.
- [13] S. Graf, & Kinshuk, "Analysing the Behaviour of Students in Learning Management Systems with respect to Learning Styles". Book chapter in: M. Wallace, M. Angelides, P. Mylonas, *Advanced in Semantic Media Adaptation and Personalization*, Springer Series on Studies in Computational Intelligence, 93, pp. 53-74, 2008.
- [14] S. Graf, Kinshuk, & T. Liu, Supporting Teachers in Identifying Students' Learning Styles in Learning Management Systems: An Automatic Student Modelling Approach. *Journal of Educational Technology & Society*, 12 (4), 3-14, 2009.

## **ISO 9001 and ISO 17025 standards in a metrology laboratory**

**José Barradas**, CATIM – technological center, jose.barradas@catim.pt

**Paulo Sampaio**, University of Minho, paulosampaio@dps.uminho.pt

### **ABSTRACT**

In the last decade, the number of companies with quality certification has increased in most countries. According to the ISO 9001 standard all the certified companies should calibrate their measuring equipment. By doing so, companies can guarantee, with rigor and quality, its measurement and use reliable data for monitoring the quality of its products and its improvement. However, a metrology laboratory is not required to hold an ISO 9001 certification or ISO 17025 accreditation.

In this moment, there are companies that have metrology laboratories to conduct an internal check of their measuring equipment. These companies have their quality management systems (QMS) certified according to the ISO 9001 standard and so all its departments and sub-departments must also comply with the requirements of this standard.

On the other hand there are companies with ISO 17025 accredited laboratories. Usually these companies are independent and his metrology laboratory is essentially to perform the calibration service to national companies who use their services to make the calibration of its measuring devices. These labs can be inserted into a company which does not have their certified QMS.

Finally, there are companies that have an ISO 9001 QMS and also a metrology laboratory accredited by ISO 17025 standard. In this case the metrology laboratory must comply with the requirements of both standards.

With this research project we intend to analyze the importance level of ISO 9001 and ISO 17025 standards for a metrology laboratory in order to reach the organizational excellence.

**Keywords:** ISO 9000; ISO 17025; certification; accreditation; quality management systems; metrology laboratory.

## **INTRODUCTION**

According to the last available ISO survey, the number of ISO 9001 companies is still increasing in worldwide.

According to Peña (2002), the ISO 9001 registration is a guarantee that all the measuring and control equipment is calibrated or verified, or both. In doing so, the companies can ensure with accuracy and quality its measurement and use an reliable data to monitor the quality of its products and its improvement (Barradas and Sampaio, 2011), and these calibrations are performed by metrology laboratories.

According to the ISO 17000 standard, certification (management systems, products, and people) is a conformity assessment activity. On the other hand, accreditation is the recognition of technical competence to carry out conformity assessment activities.

According to Prado Filho (2010), if a laboratory has been certified according to the ISO 9001 standard there is a guarantee that calibration or tests are conducted in accordance with written procedures and grounds to ensure the requirements of the standard concerned. By the other side, the accreditation according to the ISO 17025 standard goes beyond the execution of calibration according to a written procedure and required for a confirmation of technical competence of who performs the proper calibration (Duarte, 2007).

Currently there are certified or accredited laboratories according to ISO 9001 and ISO 17025 standards and also laboratories which have implemented both standards. Therefore the aim of this study is to analyze the importance level of ISO 9001 and ISO 17025 standards for a metrology laboratory.

## **REVIEW**

### **ISO 9001 certification**

The word certification is many times misused because a lot of people do not know the real meaning of it. According to the ISO 17000 standard, certification is a *"third party attestation for products, processes, systems or persons"*. In other words, the certification (management systems, products, people) is one of the activities of conformity assessment (certification, inspection , testing, calibration).

### **ISO 17025 accreditation**



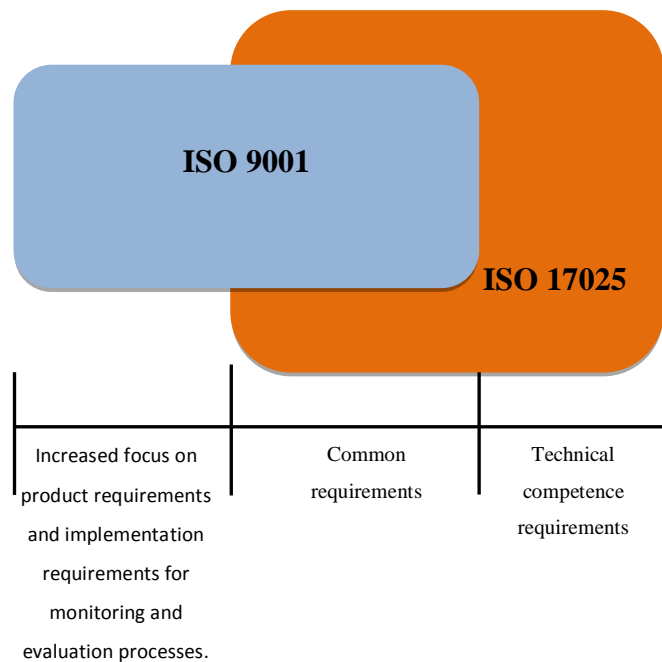
The definition of accreditation according to the ISO 17000 standard is the *"third party attestation, related to a conformity assessment body, which is a formal recognition of their competence to perform specific activities of conformity assessment."*, ie, the accreditation is a recognition of the technical competence to carry out conformity assessment activities.

### **ISO 9001 and ISO 17025: different or complementary?**

According to Pizzolato *et al.* (2008), depending on the laboratory business, the laboratory could assess its QMS according to ISO 9001 or ISO 17015 standard.

A laboratory who is inserted in an organization that has its entire organizational structure certified according to the ISO 9001 standard, does not guarantee that it has adequate technical competence to assess conformity of certain equipment, products or services and people. Furthermore, a laboratory accredited according to the ISO 17025 standard is not a guarantee that it complies with all ISO 9001 requirements, mainly the product requirements and the requirements for monitoring and evaluation of processes (Barradas e Sampaio, 2011). Figure 1 illustrates the interaction between ISO 9001 and ISO 17025.

Figure 1 - Interaction between ISO 9001 and ISO 17025 standards.



## **RESEARCH METHODOLOGY**

The methodology used in order to gather data was the semi-structured interview. According to Pawson (1996), this type of interview allows more types of qualitative data through open questions. According to Pawson (1996) and Houtkooper-Steenstra (1996), the interviewer with this type of method provides an "environment" more relaxed and also allows the interviewee to answer the questions in their own words and explain certain ideas and opinions. With this method we managed to gather facts, opinions, goals, plans and ideas that would be difficult to investigate and analyze by other methods such as filling out questionnaires (MacNealy, 1997).

According to Eisenhardt (1989), the case studies can involve single or multiple cases, and several levels of analysis.

In our investigation, we conducted nine case studies divided in three groups. Laboratories with ISO 9001 certification (group ISO 9001), laboratories with ISO 17025 accreditation (group ISO 17025) and laboratories with both of them (group ISO 9001 & 17025). The interviews were performed with the person responsible for the laboratory management system.

The companies analyzed activity sectors were: training centers, civil construction company, ceramics industry, gas equipment industry, technological centers and automotive industry.

Furthermore the companies were also from different geographic areas. We studied laboratories, located in central and northern Portugal and also one laboratory in Spain, located in the region of Galicia.

## **MAIN RESULTS**

After collecting and analyzing the voices of the interviews, we reached some important findings, that are listed in the following sections.

### **Difficulties during the implementation process**

The most important difficulties pointed out by the companies related to the implementation process were the development of processes and procedures, the definition of acceptance criteria for the equipment, the lack of training in the area of metrology and the implementation of new ways of work, different than the ones used in the past by the companies.

The difficulties related to the management of equipment and the calculations of the uncertainties were only presented in groups ISO 17025 and ISO 9001 & 17025.

### **Why certification and / or accreditation?**

The reasons that lead laboratories to apply for certification, accreditation or both are different.

In the case of the group ISO 9001, the main reason that lead the laboratories to implement the ISO 9001 standard is the fact that they belong to a company that has its quality management system implemented according to the ISO 9001 standard. Companies that want to improve their internal working methods and focus on product quality or customer service, are more propense to have a metrology laboratory to make internal calibrations to their measuring equipment. The activity sector requirement, such as the automotive industry, is another reason to have a certification according to ISO 9001 standard in a metrology laboratory.

In the case of accreditation, the main reason why some laboratories use only this recognition was the market requirement. On the other hand, there are laboratories that have applied to ISO 17025 accreditation in order to perform calibrations, to their external customers.

Concerning those laboratories that are both certified and accredited, the main reasons for certification/accreditaion were to standardize all the areas of the laboratory and to improve the recognition of the metrology services in any country signatory to the MRA (Mutual Recognition Agreement) of the EA (European Co-operation for Accreditation) and ILAC (International Laboratory Accreditation Cooperation).

### **Certification and accreditation benefits.**

For the group ISO 9001 the certification of the laboratory brought greater systematization of all the information and activities. The people become more involved and more proactive. There was also a better training and information for people.

The requirement to calibrate / check the measuring equipment is another great benefit to laboratories, as they carry out in-house services, because the measuring equipments are crucial in evaluation the quality of products. As one of the interviewed said "*with the*

*calibration / verification of measuring equipments, we learn that the equipments are in proper working order", because you can not have quality products if the equipments used to control them do not have the minimum of rigor.*

In the case of the laboratories only accredited by the ISO 17025 standard, the organizational benefits are the possibility of traceability of all the work and all the equipment, and also the operational definition of the laboratory, which means that the results are reliable and credible. In this case, there is an important benefit that is the higher training level for people who is working in the laboratory. The training for this group is considered an investment, since the technicians know what to do to be able to do it well. Another major benefit that accreditation brought was the increased number of customers and the workload for the laboratories, because the customers require accredited calibrations.

Concerning the third studied group, certified and accredited laboratories, the opinions are not consensual in relation to the benefits of having both recognitions.

Initially, the interviewed mentioned the benefits of each standard separately. The differences emerged after questioned about the benefits of having both standards. Some of them said that ISO 9001 is not useful for a laboratory that has the management system accredited by ISO 17025 standard. By the other side, others argued that the combination of the two standards is useful for the laboratory, since one of the benefits achieved was the increase in equipment life, because the technicians had more specific training in the areas of metrology and quality and so they are always updated with the equipments best practices. Another major benefit of joining the ISO 9001 and ISO 17025 is the improvement of customers perception of the quality of the service provided by the laboratory. This perception due to the fact that a considerable part do not knowing the real difference between certification and accreditation.

### **Investment in the registration and renewal of the certification and/ or accreditation processes.**

The analysis of the investment with the registration and renewal of the certification and/ or accreditation process that an laboratory need to have, was another study section. Here too, were obtained different perspectives.

For the group of ISO 9001, all the investment related to the QMS implementation would not have been worthwhile if it was only for the laboratory, but as the laboratory is one of the links in the quality of the product or service, the company's investment was well done.

Furthermore, the companies pointed out indicated that the cost with the management of equipment is very high, but do not understand this cost as an expense but as an requirement for product quality and customer service.

The ISO 17025 laboratories pointed out that the investment they must have to fulfill the requirements for accreditation, such as the calibration of standards, interlaboratory comparisons, internal and external audits are very high compared to the cost they charge by the service to the customer. However, all the laboratories had stated that the balance of the investment in the accreditation is very positive, because the customer satisfaction also improves.

For those laboratories that have implemented both standards, one of the points also referred was the high accreditation costs with the registration and renewal processes.

The investment related to the implementation of both standards, increases workload and gives a greater credibility when compared to others laboratories. The costs regard certification according to the ISO 9001 standard are reduced when the laboratory is also accredited by ISO 17025 standard.

#### **The reasons for not implemente the ISO 17025 standard.**

The most common reasons for why the companies do not implemente the ISO 17025 standard in the laboratories were:

- High internal costs;
- Not intend to perform services abroad.

According to the analyzed companies, the internal costs related to the maintenance of the system are usually high. Additionally the accreditation would only make sense if the laboratories want to "sell" the calibration services to the outside and make money with that and this is not his main interest.

#### **The reasons for not implemente the ISO 9001 standard.**

The case studies for the group ISO 17025 said they do not have the certification according to the ISO 9001 standard because it is not an added value to the laboratory, and because the customers just require an accredited report/ certificate and not asked if the company or laboratory are certified. Another reason point out was that they had never pondered this option.

### **The reasons for having the ISO 9001 certification and ISO 17025 accreditation.**

In this group the answers were more comprehensive. One of the reasons that lead the laboratories in this group to have both standards is the highest competence and a greater pride from the part of its technicians when performing a service. With the implementation of the two standards, the technicians have a higher perception of the impact that a nonconforming work has in the quality of products and services provided by its customers. The position of the laboratories in the market and the improvement in the standardization of procedures, processes and documents was a positive result of the two systems.

### **CONCLUSIONS**

After an analysis and reflection on the data obtained in the interviews, we verified that a metrology laboratory is ISO 9001 certified only when it is considered a department within a company that has its QMS certificate doing only internal calibrations or internal verifications.

For a metrology laboratory, the ISO 17025 accreditation allows the laboratories to perform external services as it is a requirement of the market and customers. For these laboratories, the ISO 9001 certification would not add any benefit to the customer service and would be an additional cost to the laboratory.

The laboratories that are simultaneously ISO 9001 certified and ISO 17025 accredited have more benefits. The main benefits pointed out were the fact of their technicians are properly updated and so the laboratories perform high quality services for external customers. In this way, they realize the impact of their service has on the final quality of products and services provided by its customers.

We can then conclude that the ISO 9001 certification, by itself, it is useful only to those laboratories which carry out internal calibration or internal checks.

The ISO 17025 accreditation is the most important recognition for metrology laboratories. However, if the laboratory work in accordance with ISO 9001 and ISO

17025, its technicians have a high sensitivity to customer service and also communicate more effectively the quality of laboratory services to the customer. The impact on customer perception is significantly positive, if the laboratory refers that it is certified and accredited.

## REFERENCES

- BARRADAS, José, SAMPAIO, Paulo (2011). *"ISO 9001 or ISO 17025: What is more importante for the metrology laboratory"*. Proceedings of 12th International Symposium on Quality, Osijek, Croácia.
- BARRADAS, José, SAMPAIO, Paulo (2011). *"A ISO 9001 e a ISO 17025 num Laboratório de Metrologia"*. Livro de Actas do Encontro Nacional de Engenharia e Gestão Industrial 2011 (ENEGI 2011), Guimarães, Portugal.
- DUARTE, Noélia (2007). *"A Gestão da Qualidade e o Reconhecimento Internacional"*: 2ª conferência nacional, SPMet, RELACRE - Metrologia e inovação. Funchal, Portugal.
- EISENHARDT, Kathleen M. (1989). *"Building Theories from Case Study Research"*. The Academy of Management Review, Volume 14, Nº 4, pp 532-550.
- HOUTKOOP-STEENSTRA, Hanneke (1996). *"Probing behaviour of interviewers in the standardised semi-open research interview"*. Quality & Quantity 30, pp 205-230.
- MACNEALY, Mary Sue (1997). *"Toward Better Case Study Research"*. IEEE Transactions on Professional Communication Society, Volume 40, Nº 3, pp 182-196.
- NP EN ISO/IEC 9001:2008 *"Sistemas de gestão da qualidade - Requisitos"*. Instituto Português da Qualidade, Lisboa, Portugal.
- NP EN ISO/IEC 17000:2005 *"Avaliação da conformidade. Vocabulário e princípios gerais"*. Instituto Português da Qualidade, Lisboa, Portugal.
- NP EN ISO/IEC 17025:2005 *"Requisitos gerais de competência para laboratórios de ensaio e calibração"*. Instituto Português da Qualidade, Lisboa, Portugal.
- PAWSON, Ray (1996). *"Theorizing the interview"*. The British Journal of Sociology, Volume 47, Nº 2, pp 295-314.
- PEÑA, Mariano Martín (2002). *"Medir para progresar. Importancia de la Metrología en la sociedad"*. Forum Calidad, Nº 128, Año XIII, pp 56-58.
- PIZZOLATO, Morgana, CATEN, Carla S., JORNADA, João A. H. (2008). *"A influência do sistema de gestão de laboratórios nos resultados dos ensaios de*

*proficiência da construção civil*". *Jornal Gestão e Produção*, Volume 15, Nº 3, pp 579-589.

PRADO FILHO, Hayrton Rodrigues (2010). "*A interação entre a ISO 9001 e a ISO 17025*". Obtido em: <http://qualidadeonline.wordpress.com>



# **Improving the quality of the coaching process for entrepreneurship: a study of the case of France**

Sandra BERTEZENE, Université Claude Bernard LYON 1, France  
[sandra.bertezene@univ-lyon1.fr](mailto:sandra.bertezene@univ-lyon1.fr)

Cyrille FERRATON, Université MONTPELLIER III, France  
e-mail

Jacques MARTIN, Université du Sud TOULON VAR, France  
[martin@univ-tln.fr](mailto:martin@univ-tln.fr)

David VALLAT, Université Claude Bernard LYON 1, France  
[david.vallat@univ-lyon1.fr](mailto:david.vallat@univ-lyon1.fr)

## **Introduction**

In many countries, especially in Western countries hit by persistent unemployment, authorities are encouraging the creation of new enterprises as it is seen as a means to reduce unemployment, to foster innovation, to create new opportunities in an economy (Vallat, Fayolle 2005, Vallat 2001, 2002a, 2003). In the case of France this process creates more than 600,000 jobs per year and is therefore an essential element of economic dynamism. That is the reason why the study of the coaching of the creation of enterprises has become an important theme both from a managerial and a scientific point of view (Léger-Jarniou, Saporta, 2006). In this context we will endeavor to analyze the quality of the coaching process putting the stress on its shortcomings and propose to adopt an approach of continual improvement of the quality (Weill, 2001; Kemp, 2006) right from the start of the process in order to ensure the long-term success of the operation and the passage from a very small enterprise to a medium size enterprise which is one of the major challenges of the coaching in France (Simon, 1999).

We will base our study on the results of several surveys carried out by the “Lyon Ville Entrepreneuriat” network dedicated to helping the creation, taking-over and transmission of enterprises in the Lyon conurbation. The first study examined the coaching and financing initiatives for the creation of businesses in the Rhône-Alpes region. These initiatives are generally aimed at persons in dire economic situations (unemployed, working poor, people on benefits, etc.) who are excluded from the traditional banking system and thus unable to get any financial help from traditional sources. Then the monitoring of the coaching process was realized in three organizations of the Lyon conurbation (“Association pour le droit à l’initiative économique, Association Créons, Association Rhône Développement Initiative) Finally a monograph was realized from 29 interviews by 16 coaching organisms for business creation in the Rhône-Alpes region (Vallat, 2002a, 2002b et 2002c ; Ferraton et Vallat, 2003, 2004 ; Vallat, 2007).

After establishing the foundations of quality for the creation of enterprises, we will present the results of our empirical research and analyze the benefits and shortcomings of the coaching. Finally we will present some propositions and research tracks that could contribute to the improvement of the quality of the coaching.

# **1. The foundations of quality in the creation of enterprises: literature review**

Entrepreneurs going to see structures of coaching for the creation of an enterprise often express needs which are deemed irrelevant by the persons in charge of these structures. This gap between the needs expressed by the entrepreneurs and the real needs comes from a paradox; the creation of an enterprise is not done by a professional and therefore is affected by a number of quality defects. We first need then to focus on the quality foundations for a “good” creation of enterprises.

## **1.1 An autonomous entrepreneur**

Classically in economic theory, the entrepreneur is an individual figure motivated by a will for profit, akin to a will for power. This vision of the entrepreneur comes from his status of “flagship of liberalism” and is the one found in Schumpeter (1939). The Schumpeterian entrepreneur is motivated by the desire of personal success. The profit comes from the success of an innovation in the market, which can be a new product or a new production process. The success, but often short-lived, of ‘start-ups’ at the end of the 1990s, is a good illustration of this vision of the entrepreneur as a great innovator and the ‘engine of capitalism’. But the economic reality is somewhat different (Giraudeau, 2007). However the ‘solitary dimension’ is a reality. Thus all coaching organisms insist on the necessary capacity of adaptation and autonomy of the entrepreneur.

## **1.2 A collection of different forms of capital**

Boutillier and Uzunidis (1999) put the social capital at the heart of entrepreneurial dynamics. The authors define the social capital of an entrepreneur as “his/her capacity of identifying and evaluating all the parameters which can influence the success of the entrepreneurial adventure”. This notion of social capital was first put forward by Bourdieu (1980) as all the resources – present and potential – which are linked to the existence of a durable network of relationships of ‘inter-knowledge’ and ‘inter-recognition’, which are more or less institutionalized. On this basis Boutillier and Uzunidis explain that the social capital of the entrepreneur has got three dimensions: a ‘financial capital’ (financial resources and channels), a ‘knowledge capital’ (techniques, know-how, education, experience) and a ‘relationships capital’ (institutional or formal, family, banks, other enterprises, the State, etc.). This leads us to the question of the inter-dependency of these three forms of capital and a possible hierarchy between them.

The three types of capital somehow balance one another. But they do not influence the creation of an enterprise at the same stage of the process. The ‘knowledge capital’ has to come at the very beginning of the process. If the entrepreneur does not master the competencies necessary for the activity, (s)he is bound to fail. Strangely enough, entrepreneurship is very much interested in entrepreneurial competencies (Loué et al., 2008) whereas entrepreneurs seem more interested in getting legitimacy through the coaching (Messeghem, Sammut, 2007) in order to build a good reputation (Studdard, 2006).

The 'relationships capital' permits to mobilize the 'financial capital'. It is possible to re-enforce this 'relationships capital' notably through support organisms which will facilitate the access to the 'financial capital'.

The central stake for the long-term success of the enterprise is a relevant articulation between the entrepreneur and his/her project. Therefore a major activity of support for the creation of an enterprise is to facilitate the setting-up of networks of relationships.

For the entrepreneur, making a network live is the means to find customers, suppliers, commercial and financial partners. That is the reason why businesses created by ex-employees in the same domain of activity have more success than those created by newcomers. It is therefore a major role of coaching to open the doors of such networks.

Equipped with these 'capitals', the coaching of the 'good' entrepreneur will then have to make a real situation converge with the model.

### **13. A quality coaching**

The objective of the coaching is double: making sure of the match between the person and the project and getting the minimum social capital for the long-term success of the project by including the creator in the network of his commercial, financial and institutional partners.

Of course all the organisms playing a part in the coaching of the creators do not play it all along the process, but a common objective must be pursued. Considering the number of organisms intervening and the relative complexity of the creation process (for someone who is not a professional), the aim is to make the process as smooth as possible not to discourage the entrepreneur and leave him/her manage by him/herself (Boutillier, Uzunidis, 1999).

## **2. The benefits and shortcomings of the quality of the coaching process: empirical results**

All the coaching organisms which have been studied do not have the same activities of monitoring. These activities vary according to the type of population dealt with and the degree of selectivity of the projects. Certain organisms require from the potential creator a formalized project which only needs to be finalized. This implies that the creator is able to carry out a market study and to build a financing plan and a budget. When the population targeted concerns people who have been long unemployed or with a low level of education, the necessity to have a personalized approach is naturally stronger. In spite of variations, it is possible to identify three phases in the coaching whose quality can be challenged on different points.

### **21. The reception phase**

#### **Benefits observed:**

The reception phase can be divided into two moments. First it is necessary for the creator to present him/herself. What's the professional and personal experience? What's the family situation? What are the financial means? What are the relations with banks? It is also of course necessary to present the project (nature, history, motivation, advancement). The creator can also be asked what his expectations are from the coaching organism. This first contact will lead to the validation of the person's idea thanks to a short opportunity study. This first

filter aims at eliminating the most unrealistic projects and the least adequate with the person.

Then the creator is led to the design phase of the project. This can be done by an organism whose main activity is to advise on the creation of enterprises or it can be entirely done internally. At the end of this reception phase, in the best of cases, we either have a potential creator of an enterprise or someone who has been advised for his/her professional career and/or the search for a job.

The evaluation of the feasibility of a project takes place in parallel with the identification of a match between the person and the project. The aim is to make sure that the entrepreneur has got the adequate knowledge to carry out the project (evaluation of the 'knowledge capital'), but also that he/she possesses the minimum 'relationships capital' and 'financial capital'.

### **Quality shortcomings observed:**

Although the primary role of the reception phase is to make sure that the person has got the potential capacity to carry out the project, certain organisms sometimes encourage people who are obviously not able to create an enterprise (for example for family or psychological reasons), which goes against the very objective of this phase.

We also note that the relationship of trust, which implies transparency on the part of the supporting organism, is not always present. The advisor does not necessarily show what the objectives and the constraints are, so that a refusal of the project can be felt as a sanction. On the contrary the advising organism should make the person aware of the weaknesses of the project and invite him/her to rework it or even to change it.

## **2.2 The coaching-advising phase**

### **Benefits observed:**

The advice phase not only aims at helping the creator to formalize the project but also at reinforcing the 'social capital' of the person. This implies a learning process notably of indispensable management notions and commercial culture (knowledge of the market, of the environment, commercial negotiation). The general goal is to strengthen the different forms of social capital. This coaching can take on different shapes of which the most common, and perceived as the most effective, is the face-to-face meeting between the entrepreneur and the coach, but also training periods, the recourse to a godfather, the participation in meetings of entrepreneurs, etc.

This coaching is not necessarily limited to the capitalization of knowledge, it also involves help to decision-making as a central aspect. What customers to focus on, how to diversify customers, how to find suppliers, where to locate the business with what sort of lease? Answering these questions goes together with the mustering of the necessary funds. It is not possible to dissociate the two aspects.

The coaching can also involve the provision of material support such as IT equipment and premises.

### **Quality shortcomings observed:**

Normally this process should lead to the construction of a business plan. Yet we notice that

this aspect is often under-estimated in the advice phase. One reason can be found in the fact that the coaching structures do not systematically work closely with financing organisms. As a result, constraints can be incorrectly appreciated and chances of financing are not maximized and in case of refusal the entrepreneur finds him/herself in a dead end.

We also notice that for some coaching structures, it is easier, because it is quicker, to do things themselves instead of the entrepreneur rather than helping him/her to appropriate the method. Thus certain coaching providers briefly meet the entrepreneur, get some information and prepare a business plan on his/her behalf. Although such a method saves time and money, it causes some prejudice to the creator who will not be able to present the project correctly for lack of appropriation.

## **2.3 The monitoring phase**

### **Benefits observed:**

Once the project is validated and the funds to finance it have been found, in the best of cases, the entrepreneur's activity is monitored during the first two or three years, which is the period during which the majority of small enterprises cease their activities. The monitoring consists in setting up a management dashboard that the enterprise must submit regularly and which permits the person in charge of the monitoring to anticipate difficulties. As soon as an indicator reveals a dysfunction, the monitor contacts the entrepreneur to explain the situation and, if the situation is more critical, visit and work with the entrepreneur to find solutions. Support can be found in the coaching network; other entrepreneurs can be solicited to help the failing business. There tends to be a development in several organisms of a collective form of coaching through clubs of entrepreneurs for example. They meet more or less regularly to follow some training, exchange experiences and sometimes establish commercial contacts.

The post-creation monitoring is necessary to have an external view of the development of the business and anticipate problems.

### **Quality shortcomings observed:**

This phase is often the weak link in the coaching whereas it is vital for the survival and development of the enterprise. The entrepreneur, absorbed in the daily work, may not see opportunities, can make some decisions too late, and does not necessarily know who to ask for advice or for training.

Consequently, it is rather frequent that the intervention of a coaching organism comes too late when the enterprise is already on the brink of bankruptcy. And even in this situation, there is no help available to make it as smooth as possible, because the notion of failure is only perceived negatively.

## **3. Ensuring the quality of the coaching and the creation of an enterprise: propositions and research tracks**

In the previous part we tried to examine globally what coaching for the creation of an enterprise meant. In order to judge of the quality of the coaching, we propose now some research tracks derived from the literature and our empirical study: a coaching centered on the entrepreneur and his/her autonomy, conforming to the quality charter, carried out by competent and trained people able to manage the quality of the project of creation of an

enterprise and favoring the implementation of a quality approach inside the enterprise to ensure its long-term survival.

### **3.1 A coaching centered on the entrepreneur and his/her autonomy**

To help the realization of the project it is necessary to know it well and the person who carries it. This requires time. It thus implies to have several interviews with the entrepreneur so that there is mutual understanding. The success of the project will depend on the personality of the creator, the competencies in the sector of activity, the experience, the professional environment, the time devoted to the project (Garnier et al., 1992). The more the coach knows the project in its details, the better the coaching will be, especially as the information delivered during the coaching can increase the doubts of the creator and influence his morale (Lévy-Tadjine, Paturel, 2006). That is why there is a consensus both among researchers (Livian, Marion, 1991) and practitioners (Ettinger, 1995) about the consideration of the human factor in the coaching practices.

If the creator who masters the project is able to answer all sorts of operational questions (level of investment, equipment, etc.), he may not be able to explain them to a banker studying a business plan which has been drafted without a real involvement of the creator. All along the coaching then, a key element is “make do rather than do in the place of”. The aim is to have a real appropriation of the project by the creator and make him/her capable to act autonomously (Sen, 1987, 1999, 2000).

The coaching should include the management of failure. From the reception of the project, the creator must be made aware that the project could fail, and the coach must be ready to explain why and to manage the reactions of the creator in such a case. So the coach does not only have a technical job to accomplish but also a psychological job. The refusal of the project should not be presented as a sanction against the entrepreneur and should be motivated by objective reasons. Later, if the business goes bankrupt, the coach should also be able to support the entrepreneur through this difficult period whose legal and administrative technicalities are a challenge for him/her.

### **3.2 A coaching conforming to the quality charter delivered by competent personnel**

In order to guarantee the professionalism of the coaching structures and the quality of their services, the “Etats Généraux de la Création d’Entreprise” in France required from them in 2000 to provide quality services and to coordinate and harmonize their activities. Within this framework the “Conseil National de la Création d’Entreprise” (CNCE) worked out a quality charter for these supporting structures and defined and implemented a training programme for the personnel of the support networks. The charter defines the commitments of the coaching structures towards entrepreneurs (Gogue, 2006):

- welcoming the entrepreneur and presenting the role, the services, the conditions of intervention of the structures and the public they will address;
- orient, if needed, towards another organism or person more apt to meet the needs;
- accept the presentation of the project and help to complete it to get the best chances of success and facilitate the intervention of the financial organisms;

- preserve the confidentiality of the project;
- appoint a correspondent responsible for the monitoring of the relationships;
- provide the competent intervening persons;
- answer according to defined deadlines;
- facilitate the provision of equipment adapted to the project;
- consider the remarks of the creator to improve continually the service rendered;

The charter also defines the commitments regarding the CNCE:

- Give the CNCE the mission to promote the quality charter and to organize the evaluation and control of its implementation ;
- Contribute to exchanges between the actors supporting the creation of enterprises;
- Provide evidence of a conforming implementation of the commitments towards entrepreneurs.

The implementation of this charter implies that the advisors are trained and competent. This must be underlined as there has been a tendency for a long time to consider that coaching for the creation of an enterprise (particularly by unemployed people or people in difficult situations) required more “social” than “economic” competences. Even, as we have seen, psychological qualities are essential, the eventual success or failure of a project will rest on its economic merits. It is therefore unfortunate that quite often the coaching organisms use people who are fully motivated to help entrepreneurs but do not possess the knowledge, competencies and experience in the field.

### **3.3 A coaching to help manage the quality of the project of creation of an enterprise**

The creation of an enterprise according to Giard (1991) is a project made of non-repetitive activities resulting from a technical and/or economic stake. The coaching of the project after the creation also has the objective to improve the performance of the business to ensure its long-term survival. This requires a mutual commitment and trust between the entrepreneur and the coach, the capacity of the entrepreneur to challenge him/herself and the competencies of the coaching structure. The project will at the start be rather vague and slowly materialize (Boutinnet, 1990), hence the necessity to have coaching from the beginning to the end whereas in most cases the coaching focuses on the phase before the creation and ignores the phase after the creation, which as we have seen, is as critical.

The creation of an enterprise should follow the rules of project management as a specific approach permitting to structure methodologically and progressively a reality to come defined and implemented to answer the need of an user or customer with an objective and actions according to given resources (AFNOR 1991). In our case the direction of the project (the strategic decision) is assured by the creator and the management of the project (advancement of the implementation of the project) is assured by the coaching structure. Therefore the management of the project will adapt to changes in the environment and consider all the aspects involved, which requires organizing it around a work group involving at least the creator and a representative of the supporting structure (Joly, Muller, 1994).

### 34. Developing a quality approach to favor the long-term survival of the enterprise created

The entrepreneur has got the responsibility to put quality at the centre of his/her strategic preoccupations (with the help of an advisor if needed). Then the coaching structure will be responsible for giving the entrepreneur the information and tools required for the implementation of an approach of continual improvement of quality in order to guarantee a better competitiveness and a bigger flexibility in front of environmental changes. This can be a way of fighting against the precocious mortality of the enterprises created. For example, if 580,200 enterprises were created in 2009 (58,500 in the Rhône-Alpes region), mainly by self-employed people (55%), their survival rate after three years is only 66% (INSEE, 2010). Darbus (2008) also shows that most of the failing enterprises are not coached, contrary to those meeting more success.

In this context, we think that if the creator implements a total quality inspired approach with the help of the coaching structure from the beginning of the project, the chances of survival of the project are increased, notably through a higher efficiency in the use of the resources to develop the quality of the product or the service and a reduction in costs, as long shown by various authors (Pavis Latour, 1985; Wissler, 1986). This result is possible because ‘total quality’ corresponds to an organizational system aiming at continuous improvement and fully involving the different partners in the enterprise (including financiers, suppliers and customers). The continuous improvement of quality is of course assured through the compliance with standards but is also assured through the consideration of the evolving needs for the product or the service (Garwin, 1984; Crosby, 1986). The role of the coach then is to transfer the know-how in matter of quality management to the entrepreneur: how to involve the customer, identify the explicit and implicit needs, how to master the cost constraints in the valorization of the product or service meeting the needs (Oakland, Porter, 2003; Hoyle, 2006). The strategic integration of quality leads to higher effectiveness and efficiency and thus increases the chances of success of the enterprise.

### Conclusion

A quality coaching of the creation of an enterprise implies that it covers the reception, advice and monitoring phases of a project. However we have observed various defects and shortcomings on the part of the coaching organisms that can be summarized in the tables below.

**Table n° 1**

#### **The quality shortcomings in the coaching of the creation of enterprises**

Phases	Quality shortcomings
Reception	Some organisms encourage persons not able to create an enterprise. Lack of trust in the relationships between the organism and the creator who does not understand the constraints and perceives a refusal as a personal sanction.
Advice	The preparation of the business plan is under-estimated; the coaching organisms do not systematically cooperate with the financing institutions, so the chances of financing are not maximized. Certain structures do the work instead of the creator, so there is a lack of



	appropriation.
Monitoring	Sometimes non-existent whereas it is necessary to ensure the survival and development of the enterprise.

These shortcomings damage the project and the creator. Therefore we propose different actions to reduce them.

**Table n° 2**

**Propositions to improve the quality of the coaching of the creation of enterprises**

Propositions to improve the quality of coaching	Consequences for the improvement of quality
A coaching centered on the person and his/her autonomy	<p>The coaches should take into account the human factor in their practices to improve the quality of the coaching.</p> <p>The coaches should let the creators do instead of doing for them, so there can be appropriation of the project by the creator who gains in autonomy and acting capacity.</p> <p>The coaching should include the management of failure, explaining the reasons for it and trying to find new ways.</p> <p>If the enterprise goes bankrupt, the entrepreneur should find help during the procedure.</p>
A coaching conforming to the quality charter, delivered by competent personnel	<p>The coaching organisms should systematically conform to the requirements of the charter and refer to the CNCE.</p> <p>The implementation of the charter supposes that the advisors are trained and competent in the field of enterprise creation.</p>
A coaching to help manage the quality of the project of creation	<p>The majority of the coaching systems is designed for the pre-creation phase and ignores the implementation leaving the creator in a difficult situation after a few months.</p> <p>The structure should set up a project management group with the creator making the strategic decisions and the supporting structure ensuring the good management of the project.</p> <p>The monitoring of the project after the creation should permit to anticipate dysfunctions and enhance the strong points of the project.</p>
Develop a quality approach to favor the survival and development of the enterprise	<p>To fight against the early mortality of enterprises, there should be a quality management approach.</p> <p>The implementation of a total quality inspired approach, right from the start, could have a positive impact on the efficiency of the management and the quality of the products and services offered. It could also improve the control of performance and better integrate all the functions and the environment.</p> <p>The role of the advisor would be to transfer the know-how to the creator of the enterprise.</p>

These propositions will have to be tested to be validated, but they try to answer the defects noted for long by numerous observers (Larrera de Morel, 1996; Besson, 1999; Guérin & Vallat, 2000; Mulliez et al., 2004; Passet, 2005). Coaching actions are often too superficial and the training needs of the entrepreneur are not fully identified and taken into consideration.

The diversity of needs requires having a focused and individualized approach covering both the technical aspects and the human aspects.

## References

- AFNOR (1991), *Le management de projet: concepts*, AFNOR
- Aucouturier A.L., Mouriaux M.F. (1994), « Créations et créateurs d'entreprises », *Travail et emploi. Créations et créateurs d'entreprises*, DARES, n°58 (1)
- Besson E. (1999), « Pour un plan d'urgence d'aide à la création de 'très petites entreprises' », *Rapport à l'Assemblée nationale*, 14 septembre, (<http://www.assemblee-nationale.fr>).
- Bourdieu P. (1980), « Le capital social », *Actes de la Recherche en Sciences Sociales*
- Boutillier S., Uzunidis D. (1999), *La légende de l'entrepreneur*, Paris, Syros
- Boutinnet J.P. (1990), *Anthropologie du projet*, Paris, PUF
- Crosby P. (1986), *Quality is free*, Economica.
- Darbus F. (2008), « L'accompagnement à la création d'entreprise », *Actes de la recherche en sciences sociales*, vol. 5, n°175
- Ettinger J.C. (1995), « Pratiques d'évaluation et de sélection de projets et d'activités nouvelles en Europe », *Revue Française de Gestion*, February
- Fayolle A., Verstraete T. (2005), « Paradigmes et entrepreneuriat », *Revue de l'Entrepreneuriat*, vol. 4, n°1 (<http://asso.nordnet.fr/r-e>).
- Ferraton C., Vallat D. (2003), *Economie sociale et solidaire et création d'activité en Rhône Alpes : Financement et accompagnement de projets*, Rapport commandé par le secrétariat d'Etat à l'Economie solidaire
- Ferraton C., Vallat D. (2004), « La création d'activité : de la prise d'autonomie à l'action collective », *Annals of public and cooperative economics*, CIRIEC, Université de Liège, juin.
- Gartner et al., « Acting as if: differentiating entrepreneurial from organizational behaviour », *Entrepreneurship Theory and Practice*
- Garwin DA. (1984), « What's quality does really mean? », *Sloan Management Review*, 1984
- Giard V. (1991), *Gestion de projet*, Economica
- Giraudeau M. (2007), « Le travail entrepreneurial, ou l'entrepreneur schumpetérien performé », *Sociologie du travail*, n°49
- Gogue J.M. (2006), *Qualité totale et plus encore: le management de la qualité en question*, éditions l'Harmattan
- Guérin, I., Vallat D., (2000), *Les clefs du succès de la création d'entreprise par des chômeurs*, Rapport au Bureau International du Travail, January
- Hoyle D. (2006), *Quality management : the essentials*, Elsevier
- Joly M., Muller J.L. (1994), *De la gestion de projet au management par projet*, AFNOR
- Kemp S. (2006), *Quality management demystified*, Mcgraw-Hill
- Larrera de Morel B., (1996), *Evaluation des aides à la création d'entreprise*, Paris, La documentation Française
- Léger-Jarniou C., Saporta B. (2006), « L'accompagnement en situation entrepreneuriale : pertinence ou cohérence », *Revue de l'entrepreneuriat*, vol. 5, n°1

- Lévy-Tadjine T., Paturel R., « Essai de modélisation trialogique du phénomène entrepreneurial », *La stratégie dans tous ses états : mélanges en l'honneur du professeur Michel Machesnay*, EMS, Caen
- Livian Y., Marion S. (1991), « De l'évaluation de projet de création d'entreprise au pronostic de succès », *Revue internationale PME*, vol. 4, n°1.
- Loué C., Laviolette E. M., Bonnafous-Boucher M. (2008), « L'entrepreneur à l'épreuve de ses compétences : Eléments de construction d'un référentiel en situation d'incubation », *Revue de l'Entrepreneuriat*, vol.7, n°1
- Messeghem K., Sammut S. (2007), « Poursuite d'opportunité au sein d'une structure d'accompagnement : entre légitimité et isolement », *Gestion 2000*, n°3
- Mulliez A., Granger B., (2004), *Les aides publiques aux TPE*, Paris, Commissariat général du Plan
- Oakland J.S., Porter L.J. (2003), *Total quality management: text with cases*, Elsevier, 496p
- Passet O., Commissariat Général au Plan (2005), *Promouvoir un environnement financier favorable au développement de l'entreprise*
- Pavis Latour B. (1985), « La compétitivité par la qualité », *Revue Française de Gestion*, juin-juillet-août
- Schumpeter J.A. (1939), *Business Cycles*, McGraw Hill, New York.
- Sen A. ([1987] 1993), *Ethique et économie*, Paris, PUF
- Sen A. ([1999] 2000), *Un nouveau modèle économique*, Paris, Odile Jacob
- Sen A. (1999), *L'économie est une science morale*, Paris, La Découverte
- Simon M.O. (1999), « La situation en 1997 des entreprises créées en 1994 par des chômeurs bénéficiaires d'une aide publique. Comparaison avec les autres créateurs », *Rapport du CREDOC / DARES*
- Studdard N. L. (2006), « The effectiveness of entrepreneurial firm's knowledge acquisition from a business incubator », *The International Entrepreneurship and Management Journal*, vol. 2, n°2
- Vallat D. (2001), « La création d'entreprise par les chômeurs, l'enjeu de l'accompagnement », in actes du colloque *Emploi : quelles innovations ?*, Paris, Caisse des dépôts et consignations.
- Vallat D. (2002a), « Les politiques d'aide à la création d'entreprise par les chômeurs : entre libéralisme économique et économie solidaire » in J.-M. Dupuis *et alii*, eds, *Politique sociale et croissance économique*, tome 2, Paris, L'Harmattan
- Vallat D. (2003), « Finance solidaire et création d'entreprise par les chômeurs : quelle dimension politique ? », *Revue Hermès*, CNRS éditions, autumn
- Vallat D. (2007), « Accompagnement : facteur de pérennisation de la nouvelle entreprise », in Louis-Jacques Fillion, *Management des PME*, Québec : Editions ERP / HEC Montréal
- Vallat, D. (2002b), *Evaluation des dispositifs de microfinance : l'accueil et l'accompagnement dans la trajectoire des chômeurs créateurs d'entreprise*, Rapport à la Caisse des dépôts et consignations, January
- Vallat, D. (2002c), *L'appui à la création d'entreprise dans les zones fragiles en Rhône-Alpes*, Rapport à la Direction Régionale du Travail et de la Formation Professionnelle (DRTEFP), in collaboration with ANTEOR, June

Weill M. (2001), *Le management de la qualité*, Editions La Découverte

Wissler M. (1986), « Compétitivité de l'entreprise et projet qualité », *Cahier de recherche G86/8*, IAE Université Jean Moulin Lyon III, March

# **Implementing an ethical governance in homes for the elderly**

Sandra Bertezene, Université Lyon 1, France

[sandra.bertezene@univ-lyon1.fr](mailto:sandra.bertezene@univ-lyon1.fr)

Jacques Martin, Université du Sud Toulon-Var, France

[martin@univ-tln.fr](mailto:martin@univ-tln.fr)

## **Introduction**

Taking care of elderly people in specialized homes in an ethical way is a key stake in the governance of such homes as the residents are vulnerable, less and less autonomous and therefore more and more dependent on the care of others for all their activities in life. In this study we try to define a model of ethical governance and consider how this model could be operational. From an empirical point of view, we rely on the analysis of the practices of twelve establishments.

## **1. The requirements for ethical governance in homes for the elderly.**

An ethical governance should cover three main fields: the rights of the users, their good treatment and the quality policy.

### **1.1 The exercise of individual rights and liberties**

The exercise of individual rights and liberties should be guaranteed to all the persons that are taken care of in social and medical establishments and in the services they provide. In France, for example, a Charter of rights and liberties is obligatory by law. The Charter guarantees the respect of the rights of users and their relatives and covers such items as non-discrimination, adapted care, right to information, free choice of physician, participation and consent of the person, respect of family links, protection and security, autonomy, civil rights, religious practice, dignity and intimacy.

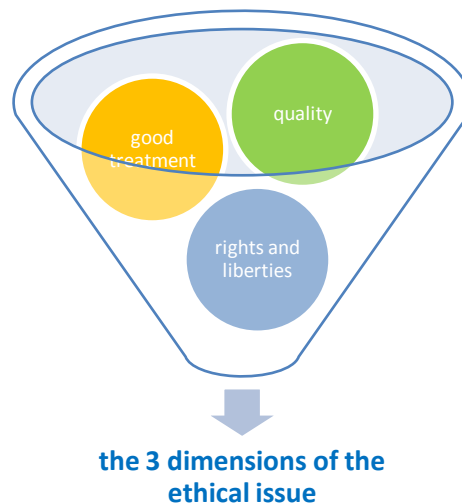
### **1.2 A policy of good treatment**

In order to fight against the ill-treatment of elderly persons, we can refer to the Declaration of Human Rights (1948), the Declaration of the Rights of Handicapped Persons (1975) or the Charter of Fundamental Rights of the European Union (2000). There is also a legal and institutional control of the establishments. In addition there are several non-governmental organizations working in this field. In the case of France, a guide was published in 2008 aiming at limiting ill-treatment behaviours, which are regularly publicized by the media. A good treatment is the result of a need for equity, social justice and quality for all social and medical services and establishments. The guide recommends that the user be a 'co-producer of his/her itinerary'. To that purpose, the recommendations permit the standardization of practices favouring the freedom of choice of the user, which implies that professionals must identify what the person wishes and give him/her the means to achieve it. Particular attention should be paid to the quality of the relation between professionals and users. The good practices also concern the enrichment of the structure and accompaniment through relevant internal and external contributions.

### 1.3 The quality policy

A quality policy has become a necessity in order to ensure the good treatment, the well-being and the respect of the rights of the users. Such a quality policy was made a legal obligation in France in 2002. This quality policy must be evaluated both internally and externally and conditions to a large extent the allocation of resources to the establishments. (Bertezene, Martin, 2007).

**Figure 1**  
**The 3 dimensions of the ethical issue**



### 1.4 The standards for good practices for ethical governance

The recommendations made by the French Agency for good practices in the establishments in terms of ethics are based on three stages; first make the ethical issue emerge, second build a framework for the ethical issue, third ensure its development and sustainability.

Making the ethical issue emerge implies that there is first a political will on the part of the management to include the ethical question into the policy of the establishment and to monitor the structure along ethical lines. It also implies that the personnel is involved so that the different factors, whether favourable or not, to the development of ethical behaviours can be evaluated. The establishment should also be open to its external environment and exchange with its actors on these matters.

Building a framework for the ethical issue means that there must be an ethical body to set and monitor objectives, to get people involved, to ensure that the various opinions are considered and that there is communication with the outer world, and to create group dynamics. This body should also define operating principles based on neutrality, confidentiality, independence, care and free participation.

Ensuring the development of the ethical issue implies that there is information, research and training on ethical matters. This requires the allocation of some human and logistics resources. This development will only be sustained if the body in charge has the means to monitor it and evaluate it regularly, which can be done as part of the internal evaluation of the establishment with appropriate criteria and indicators.

**Figure 3**

**The 3 recommendations to favour the ethical issue**



## **2. The principles governing the ethical issue**

The ethical principles applied to homes for the elderly come from the philosophical tradition (Bertezene, Nilles, 2003, 2008, 2009): justice, equity, collegiality and responsibility, to which the contemporary moral thinking has added altruism (Rawls, 2008). These five principles are interdependent and have equal importance in the ethical approach.

### **2.1 Justice**

Justice means the respect of the established law. It is a “constant disposition of the soul to attribute to each person what the civil law grants them” (Spinoza, 1670). In the context of the establishments, justice covers the following domains of the law: rights of the citizen, non-discrimination, rights of the resident, rights of the families and labour law. The respect of justice is promoted by a number of internal documents such as the charter of rights and liberties of the dependent elderly person, the log book of the resident, the contract of stay and the internal rules. Justice towards residents can be based on the following actions: an individual treatment, the recognition of the person and his/her environment, the power of decision of the family or overseeing authority to which that of the establishment must not be substituted.

### **2.2 Equity**

Traditionally, the definition of justice as legality is not sufficient, it must be complemented by equity, that is “a sure judgment in appreciating what each person is entitled to” (Lalande, 1976). The conformity of actions to the law is a necessary but not sufficient condition for their validity. A will to be equitable is indispensable (Landier, 1976). Equity in the establishments concerns both residents and personnel and means equality of treatment of needs and expectations of residents and their families and treatment adapted to individual cases. It also means for the personnel that they can develop and be motivated in their work and in their teams. An ethical and equitable management of the personnel is closely linked to the quality of the care given to residents.

### **2.3 Collegiality**

Collegiality is founded on an ethics of discussion (Habermas, 1992) to regulate individual authority, to reduce arbitrariness, to make rational decisions, to transfer information and competencies beyond the persons and to develop mutual recognition. The health personnel, in their decisions, take into account the consequences of their actions for the whole environment of the residents and their families. Their work and decisions must be justified and transparent. The principle of collegiality aims to favour collective work in the treatment of residents with multi-disciplinary teams to ensure a coherent, global and durable treatment.

### **2.4 Responsibility**

Responsibility implies that the consequences of what is done are taken into account. Responsibility is “a duty to know oneself and to know the world: we act as we are in the world as it is. Lack of conscience is a moral fault, as well as ignorance” (Weil, 1960). Responsibility involves good faith and sincerity in what we think or know. It is a sensitive point in the relationship between the professional and the patient. We can only build durably on truth (Aristotle, 2009). Responsibility towards residents implies that the professionals are conscious of their limits and that the treatment must be a collective action. It also implies that decisions are justified and communicated in order to facilitate the treatment and establish a trustful relationship with residents.

### **2.5 Altruism**

Altruism refers to a disposition to act for others. It is the general source of virtue (Comte Sponville, 1995). In the establishments the organization and the techniques are at the service of the resident. Respect for the person must be absolute whatever the professional position. The potentialities of the resident must be stimulated and developed. So altruism governs the relationships between residents and professionals. The ethics of homes for the elderly is necessarily based on respect and opening to others so that there is self-recognition and mutual recognition.

## **3. A model for ethical governance in homes for the elderly**

Ethical governance in homes for the elderly can be established through the deployment of a dashboard based on an adapted balanced scorecard.

### **3.1 The balanced scorecard as monitoring tool**

The balanced scorecard designed by Norton and Kaplan (2003), which takes into account the articulation between indicators with a strategic dimension and indicators with an operational dimension, which can sustain a quality policy can be an effective tool to control, monitor and improve the ethical dimension of an establishment within the framework of its global strategy.

The BSC seems to us adapted to homes for the elderly where there is no centralized power in all domains but where some units (care unit for example) are rather autonomous from the others, but where nevertheless there is a need for a coherent and global control and evaluation tool.

### **3.2 The characteristics of the BSC in Homes for the Elderly**

The BSC can be put in place in any kind of establishment, public or private, small or big. But as it requires to be fed by a rather large number of data, it is preferable to put it in place when a computerized information system for the collection and processing of the data required is already operational (Saulpic and Ponsard, 2000).



The BSC can be the privileged tool for the implementation of the strategy which is formalized in the 'project of the establishment'. It is constructed and fed collectively by the top management, the middle management and operators of the different units as soon as the content of the ethical policy is discussed (Norton et Kaplan, 1992, 2006).

The BSC is made up of the 4 traditional axes: internal processes, organizational learning, customers, finance. These axes are inter-dependent and contain the indicators chosen by the establishment. The internal processes axis groups the indicators for the key processes, those creating most value and giving a competitive advantage. The organizational learning axis presents the indicators related to the management of change and the means to reach the strategic objectives. The customers axis groups the indicators about the various expectations of the residents and their families. The financial axis aims at improving the financial performance of the establishment.

The BSC helps to de-compartmentalize, horizontally and vertically, the structure and favours the formalization and implementation of value-creating internal processes (e.g. individualized accompaniment of residents) thanks to the learning and coordination of actors and activities both in a top-down and bottom-up approach (Norton and Kaplan, 1996 ; Lorino, 2003 ; Saulpic, 2005).

The implantation of the BSC favours the responsibility of everyone as the reading and interpretation of the indicators and the ensuing decisions are everybody's business in the establishment whatever the hierarchical level and the specialty. Information is thus shared, objectives are deployed and everyone feels responsible in the implementation of the strategy of the establishment.

The BSC contains relevant budgetary indicators for the establishment in a changing environment, which can be quantitative and qualitative about means or results, in the short-term and the long-term, showing the effectiveness, efficiency and adaptability of the structure.

### **3.3 The constraints of the BSC for Homes for the Elderly**

There is the risk of constructing too heavy a BSC which will be difficult to manage because there are too many indicators and because it is too rigid. Some authors advise to have 5 key indicators for each axis so that the system remains legible and understandable (Giard, 2006; Giard et al., 1996). However considering the number of activities which are quite different (from medical treatment to catering) in homes for the elderly, one must pay attention that all the aspects of the management of the establishment can be monitored. A balance must be found, which is not easy. As some authors recommend (Collins and Porras, 1996 ; Lorino, 2003), we think it is preferable to select general indicators which are adaptable to change and requiring regular reporting, and indicators which answer specific needs of the establishment and collectively chosen so that there can be appropriation by the members of the establishment.

### **3.4 A model of ethical governance for Homes for the elderly**

In view of the elements analyzed, we place the ethical dimension in homes for the elderly at the convergence of three main components:

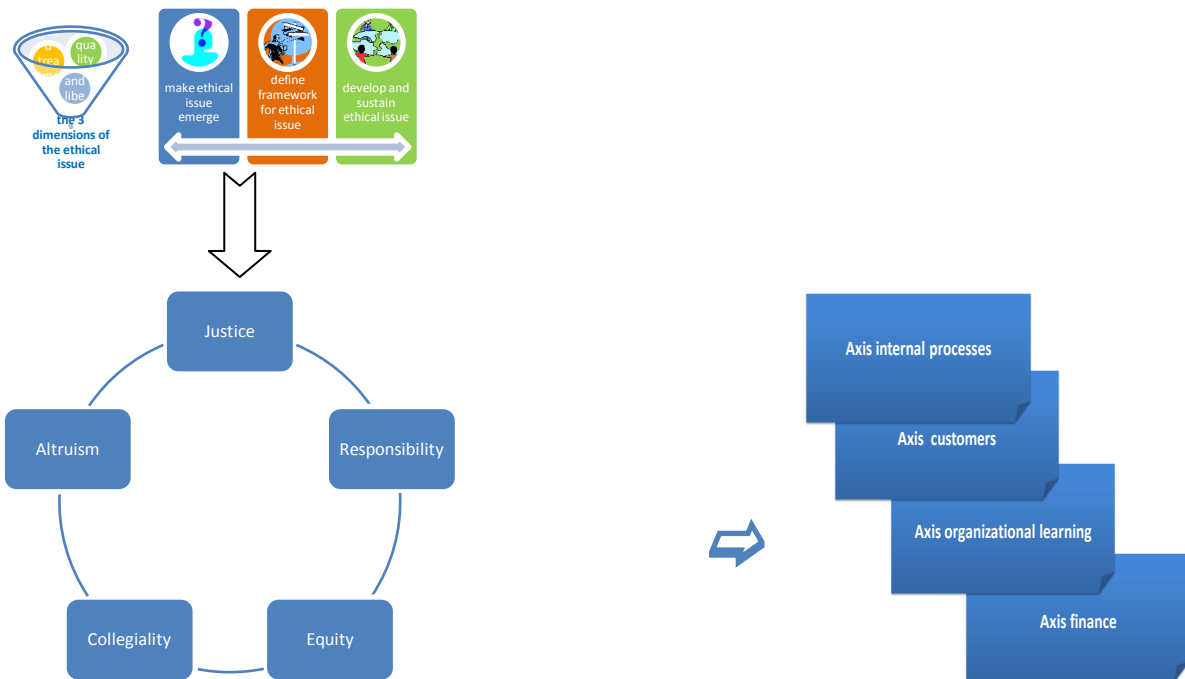
- Five virtues must be translated into the professional practices: justice, equity, collegiality, responsibility, altruism.
- Three recommendations must be respected to favour the ethical issue in the establishments: making the ethical issue emerge, building a framework for the ethical issue, developing and sustaining the ethical issue.

- Three dimensions make up the field of ethics in homes for the elderly and are thus concerned by the implementation of the five virtues and the three recommendations: the rights of users, the quality policy, the good treatment.

The virtues (or principles), recommendations for the implementation of the ethical issue and dimensions of the ethical field must be translated into indicators of measurement. These will enable the establishment to monitor the ethical issue in a continuous way through policies of quality, good treatment and respect of rights.

The model can be formalized in this way:

**Figure n°3**



#### **4. Proposal for a BSC for Homes for the Elderly: results of survey**

We will analyze here the indicators proposed by different establishments and confront them to the model. An indicator is considered as a decision tool permitting to check that the actions engaged are aligned with the strategy and then contribute to the improvement of the performance.

Thus we look at the coherence and articulation of the indicators according to the 5 ethical principles, the 3 recommendations, the 3 ethical dimensions, the 4 axes of the BSC and the three decision levels: strategic decisions by the top management, organizational decisions by the middle management and operational decisions by operators.

We first analyze the different indicators used in the 12 establishments, and then we propose a dashboard with the indicators for the ethical issue.

#### 4.1 Collection of data and research fields

Data were collected by 12 establishments, over a period of 12 to 18 months by interviewing the personnel, collecting documents and observing the definition, and implementation of monitoring indicators which can be part of an ethical governance, without necessarily naming it at that time.

**Table n°1**  
**Research fields**

<b>Name and geographical location</b>	<b>Nature</b>	<b>Number of people interviewed</b>
A Paris region	Private 220 beds, 92 personnel (full-time equivalent)	42
B Lorraine	Private 62 beds, 27 personnel	19
C Lorraine	Private 72 beds, 32 personnel	28
D Rhône-Alpes	Public 120 beds, 86 personnel	32
E Rhône-Alpes	Public 69 beds, 43 personnel	19
F Lorraine	Private 78 beds, 42 personnel	12
G Lorraine	Private 80 beds, 35 personnel	15
H Lorraine	Private 86 beds, 42 personnel	26
I Lorraine	Private 89 beds, 33 personnel	12
J Lorraine	Private 82 beds, 30 personnel	24
K Rhône Alpes	Private 80 beds, 43 personnel	18
L Lorraine	Public 61 beds, 25 personnel	13

#### 4.2 A critical analysis of the indicators observed

##### **Partial indicators which are not correlated but relate to rights, good treatment and quality**

Quite understandably, the establishments privilege the indicators which are required by the overseeing authority (Ministry of Health). In a more or less exhaustive and formalized way all

establishments have indicators to monitor the human resources (number of personnel, distribution according to sector of activity, ratio to residents, etc.). They also have indicators to monitor care (measure of dependence), good treatment and respect of rights (percentage of residents free to come and go, feeling respected, exercising their rights as citizens, etc.), quality or satisfaction of elderly people and their families (mainly dealing with activities, housing and catering). Various indicators deal with various themes such as involvement of residents in their personal project, number of deaths or hospitalization. The most numerous indicators, and considered as most important by the establishments are those related to care.

All those indicators reveal some form of effectiveness but they are purely descriptive and rarely correlated so that they cannot be dynamic monitoring indicators permitting to anticipate the future or to explain situations. Moreover most of them do not set targets, which impedes decision-making.

The other types of information are more informative documents than monitoring indicators (protocols, records, etc.). It is then difficult for the care teams to make appropriate decisions if they only have individual data and no global indicators on an event (for example about falls, broken bones, bruises), its place and time of occurrence and the profile of the residents concerned (autonomous, handicapped, etc.)

### **A lack of consideration of all the actors**

Concerning the customers, the establishments only have an indicator about the satisfaction of the residents and/or families about housing, catering, activities and care. It is constructed on an annual questionnaire. This is largely insufficient when we consider the residents and their families are the first beneficiaries of the production of services.

Concerning the partners, only the external partners playing a role in the production of services are the subject of indicators in five establishments (e.g. number of monthly interventions of a physiotherapist, number of conventions signed). But there is nothing about other key partners such as local authorities, regional agencies, or insurance companies, whereas they play an important role in the performance of the establishment.

The salaried personnel are the subject of rare indicators making the management of human resources difficult. There is sometimes a training plan, probably because the internal and external evaluation requires some information about this matter. There are tables showing the characteristics of the personnel which remain purely descriptive. There is nothing about such items as absenteeism, personnel rotation, labour injuries or the management of jobs and competencies for the future to anticipate innovation and increased dependency.

### **Some key processes for success not taken into consideration**

There are no indicators about meals or housekeeping whereas the catering process strongly influences the satisfaction of residents and their families.

No indicators have been found about activities, probably because the internal evaluation does not require it. However studies show that care is only a part of the treatment of residents and that various activities also largely contribute to their well-being.

As for administration, this process is taken into consideration by none of the establishments. Here again, this is probably due to the fact that the evaluation referential does not require any indicators. Yet the admission, life and death of a resident induce the management of heavy and important administrative files for the resident and the establishment.

### **Absence of indicators for the information system**

The individual file of the resident groups relevant information about the treatment of persons from the point of view of administration, care, activities and catering. However there are no indicators referring to the effectiveness of the file in the monitoring of the stays.

The other means of information (posting, meetings, committees, etc.) are also of importance. But the communication and information are limited to care aspects with some indicators. It is not possible to have a global view of the different processes.

### **Absence of indicators of efficiency and adaptability**

The indicators observed relate to effectiveness in as much as there is target, which is not always the case. But there are no indicators about efficiency allowing to measure the consumption of resources over time. Yet the availability of resources and their management is a major stake for establishments in a context of budgetary restraints.

There are no indicators either showing the capacity of a process to react to its environment which is changing rapidly with increased competition, higher quality requirements from customers and the legislator, increasingly dependent population. Indicators of adaptability are necessary in this context to face the demands of the market.

### **Absence of qualitative and financial indicators**

All the indicators presented are quantitative. There are no qualitative indicators and also no financial indicators. There is qualitative information in different files and financial information can be found in accounts, but this information is not exploited to design monitoring indicators. Such indicators could illustrate the social and economic performance of the establishment. They are essential for making management decisions.

## **4.3 Proposal for a BSC for Homes for the Elderly: examples of indicators**

Our proposals answer the observed lack of qualitative and financial indicators and of indicators of efficiency and adaptability linked to the information system and the different processes (not just that of care), and concerning the different types of actors. These indicators aim to monitor on a continuous basis the ethical issue through the policies of quality, good treatment and respect of rights.

We present some indicators along the different axes of the balanced scorecard: finance, customers, organizational learning and internal processes.

### **Indicators for the financial axis**

The evolution of expenses to favour the admission of aging handicapped persons permits to develop new services directed at a growing segment of customers. It is an indicator of means and adaptability concerning present and future residents, which can be used for the strategic implementation of quality and answers the principle of altruism.

The evolution of the volume and prices of products and services can facilitate the negotiation with suppliers and limit the increase in prices, eventually borne by the residents or their families. It is an indicator of means and adaptability representative of the rights of users and the principle of responsibility.

The evolution of the cash available is an indicator of effectiveness which permits to monitor relationships with financing establishments and is related to the principle of responsibility. It is also part of the quality policy as many standards imply heavy investments.

### **Indicators for the customer axis**

The percentage of residents benefiting from an individual project of care and life is an indicator which is characteristic of the principle of justice. It is also part of the quality policy.

An indicator showing the means mustered by the establishment to improve the autonomy of residents and its adaptability to stronger and stronger constraints refers to the principle of equity and the policy of good treatment. It refers to the necessary adaptations of the organization of work and the material conditions. It also enables the establishment to monitor the system of information by using data not only related to care.

### **Indicators for the organizational learning axis**

The organizational learning must be able to give information about the capacity of the establishment to adapt to a constantly changing environment. We can have here the training plan over several years with the themes, dates, duration, personnel concerned and budgets. In that way it is possible to monitor the evolution of competencies in accordance with the strategy and the resources available.

The collegiality can be expressed through an indicator concerning residents as well as personnel with regards to the policy of good treatment with the nature and number of annual procedures formalized and communicated after acts of ill-treatment. This indicator permits to show the degree of adaptability of the establishment in front of difficult situations. It can also show the effectiveness of the system of information.

The annual percentage and the financial evolution of voluntary people having been trained to fight against ill-treatment is a qualitative, quantitative and financial indicator permitting to monitor the evolution of the competencies of the human resources. It relates to the adaptability of the establishment to the requirements of the residents, the families, but also of health professionals within the framework of the policy of good treatment and the principle of equity.

### **Indicators for the internal processes axis**

To illustrate altruism, we can consider the weekly planning of outings. It permits to monitor the individual project of care and life, notably to maintain autonomy and the social link. It also refers to the right for residents to remain free.

The time spent to accompany dependent persons to the bathroom is also representative of altruism but also of equity towards persons who are more dependent. It is an indicator of adaptability to monitor the individual projects and to maintain a degree of autonomy.

The percentage of residents benefiting from an evaluation of risks by a multi-disciplinary team refers to the collegiality. It permits to monitor an individual accompaniment in terms of care, activities, catering and administration. It also impacts the information system as a lot of data must circulate between the teams. It also shows the effectiveness and adaptability of the organization as regards the evolution of the health status of residents.

The table below presents the indicators discussed with other indicators along the 4 axes, the 5 principles, concerning the different actors, with their qualitative, quantitative, financial, effectiveness, efficiency and/or adaptability nature.



CUSTOMERS	Axis	Name of indicator	Dimensions of ethical issue			Actors	Nature			Types Of objectives		
			Rights of users	Quality policy	Policy of good treatment		Qualitative	Quantitative	Financial	Effectiveness	Efficiency	Adaptability
Equity		% of residents with individual care project including adaption of work organization, physical environment and accessibility to sustain autonomy and functional capacities			X	Residents Personnel		X			X	X
Justice		% of residents with individual care project			X	Residents		X			X	
Collégiality		Evolution of nb and cost of overtime and reasons		X		Personnel	X	X	X		X	X
Responsibility		Annual nb of escapes, nature of improvement actions, nature of impacts		X		Residents		X			X	
Altruism		Annual % of residents needing assistance for voting (and evolution over 5 years)				Residents Personnel		X			X	

(ctd)

ORGANIZATIONAL LEARNING	Axis	Name of indicator	Dimensions of ethical issue			Actors	Nature			Types Of objectives		
			Rights of users	Quality policy	Policy of good treatment		Qualitative	Quantitative	Financial	Effectiveness	Efficiency	Adaptability
Responsibility		Training plans with dates, hours, duration, themes, persons involved		X		Personnel	X	X				X
Altruism		% acts of ill treatment giving rise to change actions (and evaluation over 5 years for ex.)			X	Residents		X				X



Equity	Annual of volunteers trained to fight ill-treatment (evolution over 5 years for ex.)	X			Volunteers Residents		X		X
Justice	Nb and annual cost (and evolution over 5 years for ex.) of training to fight ill-treatment	X			Personnel Residents		X	X	X
Collégiality	Nature and nb of annual formalized procedures communicated after acts of bad treatment			X	Personnel Residents	X	X		X

(ctd)

INTERNAL PROCESSES	Axis	Ethical principles	Name of indicator	Dimensions of ethical issue			Actors	Nature			Types Of objectives		
				Rights of users	Quality policy	Policy of good treatment		Qualitative	Quantitative	Financial	Effectiveness	Efficiency	Adaptability
		Altruism	Weekly planning hebdomadaire of outings (places, locatio, duration, hours, residents involved)	X			Residents	X	X				X
		Responsibility	Evolution of hidden costs linked to quality defects		X		Residents Personnel		X	X		X	
		Collégiality	Frequency and nature of partnerships with external organizations and impacts on state of resident (gerontology-psychiatry, pain relief, palliative care, etc.)			X	Residents External Partners	X	X		X		X
		Justice	Monitoring of care activities, catering, activities, administration		X		Residents Personnel	X	X			X	
		Equity	Evolution of time spent accompanying residents to bathroom		X	X	Residents Personnel		X			X	X

## Conclusion

Our research aimed at proposing a model for ethical governance in homes for the elderly and giving it a beginning of operationalization. The model is constructed on the basis of the academic and professional literature and on the empirical results obtained from the study of 12 establishments in France permitting to evidence the advantages and constraints of the different existing indicators and putting them into perspective with the requirements of ethics in homes for the elderly.

The model thus relies on the articulation of three recommendation (making the ethical issue emerge, building a framework for the ethical issue, develop and sustain the ethical issue) with the three dimensions making up the field of ethics in homes for the elderly (rights of users, quality policy, good treatment). This articulation operates in accordance with five virtues exercised in professional practices conforming to ethics (altruism, equity, justice, responsibility, collegiality) which can be monitored thanks to a BSC with qualitative quantitative, financial, effectiveness, efficiency and adaptability indicators concerning all actors and including the information system. A number of indicators have been proposed for the four axes of the BSC. This research does not aim at being exhaustive; the BSC should be complemented with other relevant indicators. Such a BSC would also have to be tested in establishments to evaluate its feasibility to verify the relevance of the indicators and their consumption of resources.

## Bibliography

ANESM, Recommandations de bonnes pratiques professionnelles – Le questionnaire éthique dans les établissements et services sociaux et médico-sociaux.

Aristotle (new edition 2009), *Ethique à Nicomaque*, Vrin.

Bertezene S., Martin J. (2007), *Internal Control, external control and quality: The case of social and medical establishments in France*, 10<sup>th</sup> Toulon-Verona Conference, Thessaloniki, Greece

Bertezene S., Nilles J.J. (2003), « L'impact des dysfonctionnements d'une organisation sur le respect de l'éthique : le cas des professionnels de la santé dans les établissements d'hébergement pour personnes âgées dépendantes », *Actes du XIVème Congrès de l'Association Latine pour l'Analyse des Systèmes de Santé (ALASS)*.

Bertezene S., Nilles J.J. (2008), « Le développement des pratiques éthiques : un nouveau défi pour les établissements d'hébergement pour personnes âgées dépendantes », *Actes de la journée transdisciplinaire de recherche AIMS-AGRH, Défis des organisations de santé, défis des sciences de gestion*, Lyon.

Bertezene S., Nilles J.J. (2009), « Prospective et éthique au sein des établissements d'hébergement pour personnes âgées dépendantes », in *Prospective sociales et médico-sociales*, Vol. 1, edited by Descamps J.M., Sentein D., Sentein L.

Comte Sponville A. (2006), *Petit traité des grandes vertus*, PUF.

Giard V. (1996), *Structure et coordination des systèmes productifs*, Coopération et conception, edited by Gilbert de Terssac et Erhard Friedberg, éditions Octares.

Habermas J. (1992), *De l'éthique de la discussion*, Editions Cerf.

Iribarne P. (2009), *Les tableaux de bord de la performance*, Patrick Iribarne, Dunod.

- Kaplan S., Norton D. (2001), *Comment utiliser le tableau de bord prospectif*, éditions d'Organisation.
- Kaplan S., Norton D. (2003), *Le tableau de bord prospectif*, éditions d'Organisation.
- Kaplan S., Norton D. (2006), *How to Implement a New Strategy Without Disrupting Your Organization*, *Harvard Business Review*.
- Kaplan S., Norton D. (january-february 1992), *The Balanced Scorecard: Measures That Drive Performance*, *Harvard Business Review*.
- Kaplan S., Norton D. (march 1996), *The Balanced Scorecard: Translating Strategy Into Action*, Harvard Business School Press.
- Lalande A. (1976), *Vocabulaire technique et critique de la philosophie*, PUF.
- Landier H. (1994), *Vers l'entreprise intelligente*, Calman-lévy.
- Lorino P. (2003), *Méthodes et pratiques de la performance*, éditions d'Organisation.
- Porras J.L., Collins J.C. (1996), *Bâties pour durer*, éditions First.
- Saulpic O. et al. (2005), *Management Control and Performance Processes*, Gualino editor.
- Saulpic O. et Ponssard J.P. (2000), « Une reformulation de l'approche dite du Balanced Scorecard », *Comptabilité Contrôle Audit*, 6(1).
- Spinoza B. (1670), *Traité Théologico-politique*, Flammarion, 2006.
- Rawls J. (2008), *Leçons sur l'histoire de la philosophie morale*, La Découverte.

# MANAGEMENT SYSTEM AND CONTROL MODEL FOR CORPORATE FRAUD ACCOUNTABILITY (note 1)

**Paolo Pietro Biancone (\*)**, **Marco Bechis (\*\*)**, **Andrea Serlenga (\*\*\*)**

(\*) University of Turin, Faculty of Economics, Department of Business Administration, Italy,  
biancone@econ.unito.it

(\*\*) University of Turin, Faculty of Economics, Department of Commodity Science, Italy,  
bechis@econ.unito.it

(\*\*\*) Criminal Lawyer in Turin, Italy, avvocatoserlenga@strata-serlenga.it

## Introduction and normative elements

The Law Decree 8 June 2001, n. 231, represents the realization, within the Italian legislation, of different International Conventions and European Directives having as an object, besides, the struggle against the corruption of the public officials, the defence of the financial affairs, the struggle against the crime and the international terrorism, the personality and health attention to the individuals.

The following international normative documents are individuated, on the basis the European Union Treaty (art. K.3):

- Convention on the defence of the financial affairs of the European Communities, undersigned to Bruxelles 26.7.1995 (named as PIF Convention) [GUCE C 316, November 27, 1995, p.48]; its I Protocol, undersigned in Dublin 27.9.1996 [GUCE C 313, October 23, 1996, p.1]; the Protocol undersigned in Bruxelles 29.11.1996 [GUCE C 151, May 20, 1997, p.1], dealing with the interpretation from the Court of Justice of the European Communities, of the above cited Convention;
- Convention dealing with the struggle against corruption involving officials of the European Communities or Member States of the European Union, undersigned in Bruxelles on 26.5.1997 [GUCE C 195, June 25, 1997, p.1], not yet ratified from all the Member States;
- OCSE Convention on the struggle to the corruption involving foreign public officials in international economic operations, signed in Paris from 34 Countries on 17.12.1997, inspired to the Foreign Corrupt Practices Act, introduced in the United States already since 1977;

It is worthwhile, even though not yet ratified from the Member States, the II Protocol of the Convention, dealing with the defence of the financial affairs of the European Communities (II PIF Protocol), undersigned in Luxemburg on 19.6.1997 [GUCE C 221, July 19, 1997, p.11], which delineates measures for the responsibility of the juridical entities.

The concept of responsibility of the juridical entity is differently conceived in the countries of Civil Law and in the countries of Common Law.

The Common Law countries, such as UK and USA, don't find obstacles to incriminate the

corporate body. The UK has two mechanisms for the penal responsibility of the companies, i.e. the principle of the vicarious liability and the identification theory. Gradually it has oriented towards the full penal responsibility of the corporate body.

In general, Germany and Spain were against the introduction of the penal responsibility of the juridical entities. France and Italy, had difficulties in overcoming the principle *societas delinquere non potest*, till the Penal Code reform (March 1994), that definitely introduced the penal responsibility of the juridical entities.

### **The Law Decree 231/01 in Italy: organizational, management and control models (ex Law Decree) and management systems models**

In Italy the "Decree 231" introduces therefore for the first time in the juridical legislation the concept of the responsibility of the juridical entities, of the companies and of the associations or of corporate body without juridical personality for facts directly connected to the hypothesis of crime during the realization of their businesses.

In the last years, the diffusion of Organizational, Management and Control Models, realized by the organizations, as application of the Law Decree 231/01, was an important phenomenon that interested the managerial aspects of organizations in all the economic sectors.

A peculiar characteristic of the above cited Law Decree, in addition to the introduction of the administrative responsibility for the organizations, is the introduction of juridical recognized Models of Organization, Management and Control, whose preventive elements are finalized to the prevention of the crime. Such a Models - synthesis of juridical and managerial characteristics - exercise a function of "preventive action" for the organizations against their penal responsibilities and contribute to the dissemination of a culture based on principles of correctness, transparency and ethics.

The Models ex Law Decree 231/01, which are effective tools of governance, can be interfaced with ISO 9001, ISO 14001 and OHSAS 18001 management systems and are always more influencing the internal auditing and, in particular, orienting it towards the legal auditing.

Among the Models ex Law Decree 231/01 and the Quality, Environment, Health/Safety and/or Social Responsibility Management Systems Models elaborated from international Standardization Bodies (ISO, BSI, ...), there are numerous common aspects that can facilitate their integration.

In particular, both the Models ex Law Decree 231/01 and the Management Systems Models, are voluntarily adopted as strategic choice of the top management of the organization and are based on a "process approach". The top management has to designate a member, in order to guarantee the conform realization of the Model(s), including its implementation and improvement, the predisposition of periodic top management review reports, the realization of meetings and diffusion of documents useful to the implementation of quality-environment-safety-social responsibility policies, and/or to the prevention of the crimes.

In both cases, the "involvement" of the whole personnel of the organization, in terms of knowledge and information, is fundament in order to get effective/efficient Organization, Management

and Control/Management Systems Models; it can be noted that the economical logic, with the evaluation of costs/benefits relationships, should not be used as exclusive reference.

The Models, in particular the Management Systems Models, can be periodically audited/assessed, in order to formalize a voluntary certification.

In conclusion, the Models of Organization and Management and the Quality, Environment, Health/Safety and/or Social Responsibility Management Systems Models can be definitely integrated among them, in fact a certified organization can extend its Management System introducing the requirements established by the Law Decree 231/01 and then realize the Model, i.e. generate a wider/integrated Management System-Model oriented to prevent the crimes.

Focusing on the application of such wider/integrated Management System-Models, it can be observed that the most critical elements to be considered are the definition of the Auditing Body and the definition of the System of Control (with the relative Sanctioning System).

It can be observed that these innovative Models, not foreseen in the international Conventions to which the Decree Law 231/01 gave actuation, can be derived from compliances programs, foreseen by the American legislation. Nevertheless, while the American Federal Sentencing Guidelines foresee, as consequence from the adoption of such innovative tools, only a reduction of the applicable sanction, the Italian legislator has foreseen a wider interpretation, including an *exempting nature* for the Model, if adopted and effectively actuated before the realization of the crime.

## **The company responsibility and the sanctioning system**

The decree 231 identifies three criteria in order to connect the crime to the corporate body:

1. the crime must alternatively be committed in the interest or to the advantage of the corporate body, where:

- the interest of the corporate body is referred to the finality of the illegitimate behavior (independently from the obtainment of the benefit). You nature of the benefit can be not also economic, but in terms of property growth or in a saving of economic resources;

- the advantage of the corporate body is referred, instead, to the real attainment of an utility from the company, independently from the goal pursued by the material author of the crime (note: it can subsist the responsibility of the corporate body also if the material author of the crime has not specifically acted in the interest of the company, but, nevertheless, the corporate body has got an advantage).

2. the authors of the illegitimate behavior have to be in *apical position* in the organigram or personnel submitted to the direction or vigilance of them. Subjects in *apical position* are intended those (within the corporate body) with functions of representation, administration, direction, as well as all persons that exercise such functions in organizational unity with financial and functional autonomy. (for instance: CEO, general manager, firm director, etc...). The subjects submitted to the direction or vigilance of subjects in *apical position* are firstly the subordinates; this category could also include some consultancy, agency or collaboration relationships.

3. the authors of the illegitimate behavior have not acted in their or third party exclusive interest.

When the authors of the crime have acted in their or third party exclusive interest there is in fact no connection between the criminal fact to the corporate body.

*"Exemption" from responsibility for the corporate body (art. 6 of the Decree 231).*

The corporate body is "exempted" from responsibility if it has adopted and effectively effected a model of organization, management and control suitable to prevent the realization of the considered penal crimes.

It can be noted that the "exemption" of responsibility for the corporate body passes through a conformity judgment on the organization and controls, that the penal judge has to formulate during a penal procedure (Sentence Law-Court of Milano - GUP Dr. Manzi - on 17/11/2009: the first and only one juridical case to today in Italy that has established a Model of Organization in a company conform to exclude the responsibility of the body itself).

It is opportune to specify that the adoption of such a Model of organization, management and control is voluntary and not mandatory. The not adoption is, consequently, not subject to some sanction, but it exposes the corporate body to the responsibility for the crimes realized by administrators and employees.

It can be observed that the application of the sanctions to the corporate body directly impacts on the economic affairs of the partners. Therefore, in case of sentence against the society, the partners would legitimately be able exercise action of responsibility towards the inactive administrators for not having adopted a suitable Model 231 (Sentence Civil Court of Milan Sect. VIII on 13/2/2008 n. 1774).

Synthesizing, a company should be excluded by responsibility when the followings four conditions are satisfied:

- it has been adopted and effectively implemented, before the considered crime, a Model of organization and management (Model 231), suitable to prevent it;
- an organism of the corporate body (Auditing Body), with autonomous powers of initiative and control, controls the functioning of the Model;
- the material authors of the considered crime have acted through fraudulent elusion of the Model adopted;
- the Auditing Body has not omitted or effectuated insufficient vigilance.

#### *The sanctioning system*

The sanctions foreseen in the decree 231, can be individuated in the categories of monetary, interdictive and accessory sanction (i.e. confiscation and publication of the sentence).

The monetary sanctions, verified the crime, always find application. The interdictive sanctions are applied only in the cases of particular gravity, such as: reiteration of crime; remarkable profit from the corporate body and crime facilitated by serious organizational lacks. They include: interdiction from the exercise of the activity; suspension or revocation of authorizations, licenses or functional concessions; prohibition to contract with the Public Administration; exclusion from facilitations, financings, contributions or benefits and possible revocation of those already existing; prohibition to publicize activities and services.

## Bibliography

- Law Dlgs. n. 231/2001, 8 giugno 2001, *“Disciplina della responsabilità amministrativa delle persone giuridiche, delle società e delle associazioni anche prive di personalità giuridica, a norma dell'articolo 11 della legge 29 settembre 2000, n° 300”*, G.U. n° 140 del 19 giugno 2001.D.L. 81/08;
- Convenzione sulla tutela degli interessi finanziari delle Comunità Europee, Bruxelles 26.7.1995, GUCE C 316, 27 novembre 1995, p. 48; I Protocollo, Dublino 27.9.1996, GUCE C 313, 23 ottobre 1996, p.1; Protocollo, Bruxelles 29.11.1996, GUCE C 151, 20 maggio 1997, p.1;
- Convenzione relativa alla lotta contro la corruzione nella quale sono coinvolti funzionari delle Comunità Europee o degli Stati membri dell'Unione Europea, Bruxelles 26.5.1997, GUCE C 195, 25 giugno 1997, p.1;
- Convenzione OCSE sulla lotta alla corruzione di pubblici ufficiali stranieri nelle operazioni economiche internazionali, Parigi, 17.12.1997;
- Il Protocollo della Convenzione relativa alla tutela degli interessi finanziari delle Comunità Europee (Il Protocollo PIF), Lussemburgo 19.6.1997, GUCE C 221, 19 luglio 1997, p..11;
- Foreign Corrupt Practices Act, USA, 1977;
- EN ISO 9001, Quality Management Systems, Requirements (ISO 9001:2008), November 2008;
- BS OHSAS 18001, Occupational health and safety management systems, Requirements, July 31, 2007;
- EN ISO 14001, Environmental management systems, Requirements with guidance for use (ISO 14001:2004), November 2004;
- Sentence, Law-court of Milano, GUP Dr. Manzi, 17/11/2009;
- Sentence, Law-court of Milano, VIII Section - Civil, n. 1774, 13/2/2008.



# MANAGEMENT SYSTEM AND CONTROL MODEL FOR CORPORATE FRAUD ACCOUNTABILITY (note 2)

**Paolo Pietro Biancone (\*)**, **Marco Bechis (\*\*)**, **Andrea Serlenga (\*\*\*)**

(\*) University of Turin, Faculty of Economics, Department of Business Administration, Italy,  
biancone@econ.unito.it

(\*\*) University of Turin, Faculty of Economics, Department of Commodity Science, Italy,  
bechis@econ.unito.it

(\*\*\*) Criminal Lawyer in Turin, Italy, avvocatoserlenga@strata-serlenga.it

## Introduction

With the Law Decree 231/2001 it was introduced for the first time in the Italian legislation the concept of penal risks for the organizations or corporate fraud accountability, in addition to a similar existing crime liability for the physical personnel that committed an illicit act. According to the above Law Decree, the not mandatory adoption of a particular management system and control model in an organization reduces the possibility of having the activities stopped and being penal sanctioned (**see Note 1 of the present Paper**). The present Note focuses on the role of the Auditing Body and the categories of crime.

## The Auditing Body

The Model of the Decree Law n. 231/2001 foresees that the corporate body can be exonerated by the responsibility consequent to the realization of crimes, if the management has an organism with independent power of initiative and control (Auditing Body).

The effective realization of the Model requires, besides the institution of a disciplinary system, with a periodic check, evidently from the organism to this appointed.

It can be noted the importance of the role of such an organism, as well as the complexity and the burden of the assignments that it has to develop.

For a correct configuration of the Auditing Body it is necessary to attentively deepen the assignments to it expressly conferred by the law, as well as the requisite that it must have in order to correct develop its task. The Auditing Body, not yet in explicit way foreseen in the normative, should be a multi-subjective organism in order to guarantee a suitable professionalism in the specific competences.

Because of its multi-subjective composition, it can include components both internal and external to the corporate body, provided that every of them introduces specific competences.

In detail, the activities of the Auditing Body can be schematized as follow:

- audit on the "reality" of the Model, which includes the verification of the efficiency and effectiveness of the organizational Model adopted in order to the prevention and the impediment of the crimes (foreseen by the D.Law 231/2001), the verification of the coherence among the real behaviors and the same Model, the respect of the modalities and the procedures foreseen by the organizational Model, the analysis of the possible behavioral gaps emerging from the informative system and from the personnel in the various functions;

- audit on the "adequacy" of the Model, i.e. on its real (and not merely formal) ability to normally prevent the not wanted behaviors;

- audit on the "maintenance" in the time of the requirements of solidity and functionality of the Model;

- care of the necessary "updating", in dynamic sense, of the Model, in the hypothesis in which it is necessary to effectuate corrections and adjustments. Such care, as a rule, can be realized in two separate and integrated moments:

- presentation of proposals of adequacy of the Model towards the business functions (Personnel and Organization, Administration, etc...), or, in some cases of particular importance, toward the Board of Directors;

- follow-up or rather audit on the realization and the real functionality of the proposed solutions and possible signal to the managing organism, for the opportune actions.

In order to document the process of auditing such an organism should:

- predispose a periodic informative Report, for the top management, about the auditing activities;
- transmit the Report to the Syndical College.

It is evident that the Syndical College, for the notable professional affinity and for the assignments that are attributed by the Law, represents one of the "institutional" interlocutors of the Auditing Body. The component of the Syndical College, in fact, being invested of the responsibility for auditing the adequacy of the inside control system must always be informed about the possible crimes, as about the possible lacks of the Model.

The following requirements are requested to the Auditing Body:

#### *Autonomy and Independence:*

The requisite has to be intended in relationship with the functionality of the Body and, particularly, to the tasks that the law assigns to the same. The position of the Body within the corporate body must guarantee the autonomy of the initiative of auditing from every form of interference and/or the conditioning from whatever component of the corporate body (and particularly from the top management). The Auditing Body should be a staff unity in the most elevated possible hierarchical position and interact with the Board of Directors in its complex.

#### *Professionalism*

This point refers to the baggage of tools and techniques that the Auditing Body has to possess for being able to effectively develop the assigned activity. It deals with specialistic techniques proper of "auditing activity", consultant techniques for management systems analysis and juridical techniques (particularly about criminal law).

Among the specific techniques: statistic sampling; analysis and evaluation of risks; measures for risk reduction; flow-charting of procedures and processes for the individualization of the points of weakness; interview and elaboration of questionnaires; elements of psychology; methodologies for the individualization of frauds, etc... Those techniques can be used after a crime (audit approach) or for a preventive approach, in order to adopt the suitable measures to prevent, with reasonable certainty, the crime (consultant approach).

#### *Continuity of action*

In order to guarantee of effectiveness and constant realization of such an articulated and complex Model, especially in the big and medium sized companies it is necessary the presence of a structure exclusively (i.e. full time) dedicated to the auditing activity on the Model. This doesn't exclude, besides, that the structure can also furnish advisory opinions about the realization of the Model.

### **The categories of crime for the corporate body**

At present the so-called hypothesis of "presumed" crime can be gathered according to the following classification:

- crimes committed in the relationships with the Public Administration;
- crimes committed in the informatics sphere;
- crimes dealing with falsification of coins, titles of public credit and values of stamp;
- crimes against the industry and the commerce;
- various typologies of crime connected with company matters and abuse of market;
- crimes with finality of terrorism or destruction of the democratic order;
- crimes against the individual personality;
- transnational crimes;
- crimes dealing with receiving, recycling and employment of money of illegitimate origin;
- crimes dealing with the violation of the copyright;
- crimes dealing with homicide and without malice aforethought lesions in occupational safety;
- crime of induction to make mendacious declarations to the Judicial authority.

With particularly attention to the crimes committed in violation of the occupational safety normative (theme of basic importance for the generality of companies), the conformity for the companies to the D.Law 231/01 and the consequent adoption of the "Model 231" should result a choice resulting from evident criteria of opportunity and good economic management.

The adoption of a suitable "Model 231" allows, together with the institution of the autonomous Auditing Body, the exclusion of any profile of administrative responsibility of the company, for the cases of serious or very serious lesions or without malice aforethought homicide (consequent to a during work accident or professional illness).

It is useful to note that the "Model 231" is added to the normal fulfillments already imposed by the normative requirements in the OHS matter (for instance, the document for risks evaluation) and

never it replaces them.

The sanctioning system includes not only monetary sanctions (art.10 D.Law 231/01) of variable imports but also serious interdictive measures (art.9, paragraph II, D.Law 231/01), for instance the immediate cessation of the activity for the company.

## Conclusions

The future scenery in theme of extension of the hypotheses of crime - contained to the senses of the D.Law 231/01, has to be reported in the present paper: in fact on May 12, 2010 it has definitely been approved from the Italian Parliament the drafts of Law including the "Disposizioni per l'adempimento di obblighi derivanti dall'appartenenza dell'Italia alla Comunità Europea" (the so called "Communitarian Law 2009").

Among the numerous dispositions on the base of which the Italian Government will have to adopt the necessary acts to conform the legislation to the community discipline, those that will have an impact on the D.Law 231/2001 result to be:

the art. 19, "Delegation to the Government for the conformity of the: Directive 2008/99/CE of the European Parliament and the Council, November 19, 2008, on the penal protection of the environment, and the directive 2009/123/CE of the European Parliament and the Council, October 21, 2009, that modifies the Directive 2005/35/CE related to the pollution from the ships and to the introduction of sanctions for violations";

the art. 52, "Delega al Governo per l'attuazione di Decisioni Quadro".

With reference to the first Disposition, in the optics of embitterment of the anticipated sanctions for the penal protection of the environment, the Government is delegated to adopt within a nine month term from the date of going into effect of the Community Law, one or more Decree Laws to actuate the two aforesaid Directives.

Among the new criminal categories individuated by the communitarian normative in matter of environment protection, with future introduction in the Italian penal system, with reflexes in theme of administrative responsibility of the corporate body:

- the introduction of illegitimate quantitative - in the air, in the ground or in the waters - of substances or radiations producing ionization, that provoke or can provoke the death or serious lesions to the people or remarkable damages to the quality of air or ground or waters or fauna or flora;
- the harvest, transport, recovery or disposal of wastes, included the control of the sites following to their closing, as well as the activity effected as dealer or intermediary (management of wastes), that provoke or can provoke the death or serious lesions to the people or remarkable damages to the quality of air, ground waters, fauna flora;
- the exercise of a plant in which dangerous activity is developed or in which are deposited or used substances or dangerous preparations that provoke or can provoke, to the outside of the plant, the death or serious lesions to the people or remarkable damages to the quality of air or ground or waters or fauna or flora;

- the killing, the destruction, the possession or the collecting of samples of protected wild animals or vegetables, except the cases in which the action concerns a negligible quantity of such samples and has a negligible impact on the state of maintenance of the species;
- the commerce of samples of protected wild animal or vegetables or parts of them or derived products, except the cases in which the action concerns a negligible quantity of such samples and has a negligible impact on the state of maintenance of the species;
- any action that provokes the meaningful deterioration of a habitat inside a protected site;
- the production, the importation, the export, the introduction on the market or the use of substances that reduce the ozone layer.

With reference to the art. 52 of the Community Law 2009, the obligation of actuation is anticipated for the Italian Government, within twelve months from the date of going into effect of the Community Law, with consequent extension of the responsibility of the corporate body for the following criminal categories:

- frauds and falsifications of means of payment different from cashes (Decision 2001/413/GAI of the Council, May 28, 2001);
- repression of the aiding and abetting of the entry, of the transit and of the illegal stay (Decision 2002/946/GAI of the Council, November 28, 2002);
- fixation of a minimum normative level related to the constitutive elements of the crimes and the applicable sanctions in matter of illegitimate traffic of drugs (Decision 2004/757/GAI of the Council, October 25, 2004).

## **Bibliography**

- M. Bechis, D. Andreis, A. Tonani, E. S. Nida, "*La responsabilità amministrativa degli enti: modelli di organizzazione e sistemi di gestione*", De Qualitate, Nuovo Studio Tecna Edizioni, Roma, ISSN 1123-3249, Dicembre 2005, 64-73;
- D. Bogazzi, Dlgs 231/2001 e Codici di comportamento - E. Perella, La responsabilità delle persone giuridiche - S. Bellò, L'impatto del Dlgs 231/01 sulle figure professionali - A. Andreani, Sicurezza sistemica, Qualità, Applicazioni del D.lgs 231/2001, Edizione Nazionale AICQ - Associazione Italiana Cultura Qualità, ISSN 2037-4186, N. 1, Gennaio/Febbraio 2010;
- Law Dlgs. 17 agosto 1999, n. 334, "*Attuazione della direttiva 96/82/CE relativa al controllo dei pericoli di incidenti rilevanti connessi con determinate sostanze pericolose*", G. U. n. 228 del 28 settembre 1999 - S. O. n. 177;
- Decision 2001/413/GAI of the Council, May 28, 2001;
- Decision 2002/946/GAI of the Council, November 28, 2002;
- Decision 2004/757/GAI of the Council, October 25, 2004.

## “THE MEDIATION AS A HIGH QUALITY SERVICE TO RESOLVE DISPUTES”

**Paolo Pietro Biancone**

University of Turin, Faculty of Economics, Department of Business Administration, Italy,  
biancone@econ.unito.it

### **Abstract**

In the past, mediation has always been applied among world populations as a way to resolve disputes between two or more parties.

In Italy, the latest legal provisions are introducing the mediation as a “compulsory” practice (Alternative Dispute Resolution - ADR) to solve a wide variety of controversies and to reduce the number of legal actions to the public court of justice.

In the ADR “systems” the mediator, a third part belonging to a mediating organization, assists the involved parties in the communication of their respective settlements in order to find a reasonable solution of the negotiation-facilitative mediation.

The final aim of the following work is to analyse the role of the mediator (in the new Italian scenario) as an independent third-part who is responsible for the negotiation and who has a fundamental role in it.

The study will be focused on how the resolution of the controversy and the satisfaction of the parties depend on the quality of the service provided by the mediator (personal communication skills, cultural experiences and specific training).

### **1. Introduction: the activity of mediation and the role of mediators**

In the past, mediation has always been applied among world populations as a way to resolve disputes between two or more parties. Despite the lack in standardization and formalization of the practice, mediation has played a key role in many controversies since olden societies. An independent third-party (the mediator) intervenes between the disputing sides in order to facilitate communication of their respective settlements and to negotiate a reasonable solution. This form of mediation is known as *facilitative mediation*.

Today in Italy, the practice of mediation is increasing in relevance among a wide range of services, including companies and privates. The advantages of this instrument are found in the cost/time reduction compared to standard legal practices. In regard to the first aspect, mediation fees are much lower than the average fee required for a traditional juridical practice and fiscal special terms are recognised for those who intend to start mediation. The duration of mediation can extend to a maximum of 4 months. Moreover, it is only necessary to submit an informal written request to the mediating *organization* to instigate a mediation. This process certainly takes less time than a legal action.

During the last few years, several normative reforms have taken place in Italy to regulate the conciliation. The practice in the Italian context has been redefined as “mediation” in order to be consistent with the term used in the rest of the World (article 1 of the Government Decree 28/2010). “Conciliation” is the term still used to define the solution outcome of the *mediation*.

The present work, after a brief introduction on mediation, aims to describe the role of the mediator through the description and analysis of specific requirements that they must possess according to Italian law.

## **2. The mediator in Italian law**

### **2.1 The scenario**

The G.D. 28/2010 (Government Decree March 4<sup>th</sup>, 2010 n.28) and the more recent M.O. 180/2010 (Ministerial Order 180/2010) have officially introduced mediation within the range of procedures used to solve controversies in the Italian system. This practice, initiated March 20<sup>th</sup> 2011, has become a compulsory step before ordinary legal processes. The principal objective related to this practice is to reduce the stress on Italian Law Courts. The mediation will mostly be applied to some “critical” forms of disputes in the Italian public law involving civil rights, family legacies, successions, contracts of location, medical responsibilities, finance and assurance services. From 2012 mediation will be required as a mandatory practice also for condominium disputes and compensation claims for damages coming from vehicles or crafts.

To allow sufficient diffusion of the new technique, it is necessary to introduce mediation within the panorama of juridical solutions. Companies, privates and corporations should be aware that mediation could be a powerful instrument used to reduce time and cost spending of civil causes and to increase the efficiency of legal procedures battling controversies in the Italian realty sector.

The first aspect to consider is that mediation comes in addition to “ordinary justice”. So far, the court and the arbitration (only in a few cases) are recognized as the only two institutions that deal with solving controversies. Now, mediation represents “another” institution in which there is a reversal of perspective: the main actors involved in the dispute are now the parties working together to determine a conciliation, assisted with the contribution of an independent third-party that facilitates their communication. Situated in this completely new perspective, the parties work as first players.

The driving force behind this law is to reduce the amount of civil cases pending in Italy, which has reached 5.4 million (data from Italian Minister of Justice). The Italian government is relying on mediation to reduce the congestion on ordinary processes and to eliminate at least 1 million court disputes per year. This is a very important challenge within the Italian context characterized by the extremely rapid proliferation of conflicts.

### **2.2 Mediator requirements**

The previously mentioned rules describe the practice of mediation (Decree n.28/2010), the requirements of the mediator, mediating organizations and trainers (Ministerial Order 180/2010).

To define the role of mediators, it is necessary to analyse the two mentioned legal acts.

The first article of the Government Decree refers to some important definitions from the previous Order 222/2004 then restated in the M.O. 180/2010. It defines the mediator as a person or a small group of people who, together or individually, conduct the mediation without making an evaluation of the controversy or any decisions that can determine the resolution of the mediation.

The following definitions are provided in article 1 of the G.D. 28/2010:

- «Mediation»: the activity conducted by an independent third-party aimed to assist two or more conflicting by means of an informal agreement to solve the dispute and in the proposition of a solution if the parties do not reach an agreement.
- «Conciliation»: the obtained solution of a controversy after the practice of mediation.
- «Mediating organization»: the public or private corporation chosen by the parties in which the practice is conducted according to the actual law.
- «Settlement of the procedure»: the legal act containing the independent set of rules for the mediation and related costs adopted by the mediating organization; the document is regulated in article 7 of the Order 180/2010 that defines the elements of the settlement, which organizations can independently decide on, and the measures that are regulated by the law.

Starting from these first definitions it is possible to consider the following aspects about the role of the mediator:

#### *Independency:*

The mediator is defined as an independent third-party (belonging to a mediating organization) who intervenes among the involved “players” in order to facilitate their communication and the proposition of a solution addressing the controversy. In practice, the mediator has no interests in the resolution of the controversy and, more importantly, he doesn’t have any direct relations with the parties. The disputing parties do not pay the mediator but rather the organization. The organization pays the mediator according to settlements. According to this, article 14, paragraph 1 of the Government Decree 28/2010 eliminates the possibility of the mediators acquiring any rights or responsibilities concerning, directly or indirectly, the controversy except those relevant for the provision of the mediating service.

The mediating organizations, as far as the law states (art.16, paragraph 3, D. 28), must deposit by the Minister of Justice, in addition to the settlement, the “code of conduct” that will establish other rules that mediators must follow in their practices. All of these elements contribute to the independency of mediators who, within their activity, must follow what is stated in official documents without deviation; thus, the clients cannot influence their activity in any way.

The mediator’s independence has a vital function in achieving the trust of the parties, which is essential for the resolution of the entire practice.

#### *Neutrality:*

The M.O. 180/2010, article 7 paragraph 5, defines the subscription of a neutrality declaration from the mediator as a core element of mediating organizations settlements.

This provision is explained in article 14 paragraph 2 of the G.D 28/2010 as follows:

*“The mediator is obliged to: a) subscribe, for each controversy, a declaration of neutrality according to the measures reported in the procedure regulations; b) expose any further commitments that are required by the specific regulations of the organization.”*

These principles emphasize the necessity that the mediator does not have any personal or economic interests in the resolution of the mediation. In the case that any interests of the mediator are noticed, they have to be immediately communicated to the mediating organization who evaluates the existence of a real infringement to the neutrality and the substitution of another mediator for the practice.

#### *Reserve and professional secrecy:*

Reserve is a controversial theme in Italian law. Firstly, the term, with Anglo-Saxon origin, refers to “privacy right” as the right to protect personal data from the public. The term in



Italian law (legal act, December 31<sup>st</sup> 1996 and Government Decree, 30<sup>th</sup> 2003 n.196) is connected to the private sphere and to any general social and economic information that are limited in their diffusion by the law.

As far as the mediation is concerned, article 9 of the G.D. 28/2010 states the commitment by mediators to reserve the obtained statements and information collected in the process of mediation.

Professional secrecy represents an additional element of reserve. Article 10 paragraph 2 of the decree states:

*“The mediator is not requested to come out with his personal opinion on the statements obtained in the mediation, neither in front of the juridical authority nor other authority.”*

#### *Responsibility:*

Responsibility is a relevant aspect of the mediating practice. It is necessary, before starting to analyse the requirement, to introduce a distinction between two different types of mediators included in Italian law.

The two laws analysed in this article refer to the responsibilities of only facilitative mediators as far as they are described in the Civil Code. In fact, responsibility is one of the most complex aspects of the mediation if we think of it as an evaluation practice. The description of the two types of mediators will be presented in the following section (see Section 2 “Characteristics of mediator and mediating techniques among the different phases of facilitative mediation”).

As has been previously mentioned, in the mediating practice there are two contractual relations; the relation between the two parties and the mediating organization, and the relation between the mediator who conducts its activity according to what the law prescribes and the organization that disciplines it. The responsibility of the mediator is restricted to these two relations and they are not responsible toward the parties because there is no direct relation between them. However, theory differs to what happens in real cases. Once a mediator is elected there is a relation between the mediator and the parties that has a particular connotation. The mediator has to follow legal provisions but at the same time he is responsible for the provision of a professional service that should meet the expectations of the involved parties.

### **2.3 The role of Mediating organizations in the definition of mediator characteristics**

As subsection 1.2. demonstrates (“Mediator requirements”), mediating organizations play a key role in the definition of *neutrality* and *independency* of mediators.

In this part, after a brief definition of mediating organizations, attention will be focused on how the existence of these entities contributes to the definition of the profile of mediators.

Mediating organizations are defined in art.1 d) of the Gov. D. 28/2010 as *“the public or private organizations/associations that can conduct a mediating practice”*. Article 16 defines the conduct of mediating organizations operation and management of mediating activities. According to this legal provision, mediating organizations, before starting a mediating procedure, need to be inserted in an official Register of Mediating Associations by the Minister of justice. To apply for official recognition, the organizations must deposit their settlements and their code of conduct for inspection by the Minister.

The importance of the relation between the mediator and the organization has to be seen within the function of “guarantor” that the organizations have. The mediator must follow the code of conduct and the settlements of the organization by conducting their practice. Nevertheless, mediation has to remain an independent and personal service provided by the mediator.

### **3. Characteristics of the mediator and mediating techniques during different phases of facilitative mediation**

The focus of this section is on the analysis of mediator's characteristics and techniques by considering the mediating service as a process of chronologically ordered phases.

#### **3.1 Facilitative and evaluative mediators**

The Italian legislator has introduced two typologies of mediators, facilitative mediators and evaluative mediators, of which each organization has to manage independently. We will refer to the facilitative mediation for the purpose of describing the mediation procedure. It is necessary to briefly introduce the two mediator roles in order to have a better comprehension of their respective activities and related issues.

- The facilitative (mostly used) mediator's aim is to try to orientate the parties towards a solution that grants their respective satisfactions; his role is primarily found in the necessity to make the parties aware of their mutual interests more than opposing positions. The function of the mediator is limited to the recognition of parties' respective interests, which are necessary to identify in order to reach a mutually satisfying agreement without involving the court process. The mediator avoids any proposition of solutions.
- The evaluative mediator is more exploratory in nature. This type of mediation is modelled on adjudicated settlement conferences. The mediator works with the parties to find a satisfactory resolution by identifying the weaknesses in their argument and even making predictions regarding the reactions of a judge or jury. They may even go so far as to informally recommend consequences and results of cases. This type of mediation is more focused on the legal aspect of the parties as opposed to the personal interests and needs. Thus, the evaluative mediator will lean more towards evaluating issues from a legal perspective.

This second type seems to be inconsistent with the mediating activity that is characterized by independence and neutrality, far from the proposition of any solutions. However, the legislator also seems to encourage the activity of evaluative mediators. According to article 7 of M.O. 180/2010, paragraph 2, a conciliation proposal can come from a different mediator other the one who was first charged. In this case, due to the existence of "blind spots" (referring to information the parties didn't share with the new mediator) the (evaluative) mediator will conduct the mediation practice focusing on the legal aspect of the controversy. The reason why the law has predicted such a provision is that experts have pointed out the risk of obtaining an "affected" result, which can be mostly based on confidential information obtained by the mediator during the facilitative mediation.

#### **3.2 Phases of mediation, characteristics of the mediator and mediating techniques**

There are basic stages, or phases, that most mediations go through. Phases are guideposts about progress, but do not have to occur in a specific order at a specific time. By analysing the following phases it is possible to individuate the requirements for mediators in each step. The process starts with two preliminary "PRE-mediation" phases aimed to orientate the parties towards mediation and to identify initial issues. In these phases the mediator identifies the basic issues of the conflict; how it was generated and whether in this case the mediation is appropriate or not. At this stage, the main actor of the mediation is the mediator who helps the

parties to understand what mediation is and what the main statements are. However, parties can ask questions about the practice and they are considerably involved in the creation of the trust required for the solution of the practice. In this phase, mediators do not act as judges and their independency, neutrality and reserve must be mentioned and stressed in order to depict authoritative professionals that the parties can trust in the resolution of their controversy.

In phase 2 (*The negotiation*) the mediator understands parties' interests and emotions by investigating their different perspectives of the conflicts and their expectations.

There are two sessions for this phase: the joined session and the separate session.

In the prior, the ability of the mediator to listen to what the parties are saying is the most relevant. To do that, he employs two different techniques. The most famous is the active listening determined by Carl R. Rogers (Carl R. Rogers, *Counselling and Psychotherapy*, 1942). In this method, the listener has an active role and he/she has to create a sense of empathy with the speaker in order to allow them to understand that he/she is not only listening, but also taking part emotionally in the conflict. The "perception" of mediators' listening has to be demonstrated by the adoption of communicative instruments that can be defined as "secondary" elements of communication (i.e. voice, gestures etc.). Perception of a mediator's empathetic listening will determine the parties' basis of trust.

Active listening can be employed by the following:

1. Maintain silence as evidence of paying attention.
2. Ask questions in order to obtain further data that otherwise won't be mentioned.
3. Sum up what has been mentioned by the parties at this point.
4. Ask specific questions ("yes" or "no").
5. Reassure the parties in order to make them feel comfortable sharing their emotions.
6. Summarize collected information and restate.

During the joined session the mediator has to be able to listen, understand and restate what he has just heard from the parties. At the same time he has to reassure the clients that their *feelings* are the most important aspect of this, and that they won't be judged in any way.

This session begins to construct a solution addressing the conflict. The mediator uses information to encourage the parties without giving any interpretations or judgements. By doing this, he encourages the strongest position that will be depicted as directly coming from the clients.

In separate sessions, the mediator tries to obtain further information from each party separately in order to use them in the mediation. It is crucial to be able to create a climate of complete trust at this stage. In accordance with this, the mediator emphasizes that no information will be reported to the opposite party without prior permission. The techniques used are again the active listening and communication; starting from this point the mediator begins to work towards an agreement.

In the very last phase, *the formalization* of agreement (article 11 Gov.D. 28/2010), the mediator, if the parties reach an agreement, reports and registers a formally written document (this is a function of the secretary if the settlement of the mediating organization requires it). However, the parties are responsible for drafting the text of the agreement. The mediator in this step has no-active role (facilitative mediation); he records what the clients have decided on the dispute and verifies that all involved parties are conscious of what is set by the agreement and what are the advantages and disadvantages of it.

In the case that the parties do not reach a solution addressing the controversy, the mediator can make suggestions. Although this case is disciplined by law (article 11 paragraph 2), the mediator is allowed to determine contents of the mediating solution he proposes.

The suggested solution doesn't have to precisely reflect what the parties stated as what is true for the judges. In the case of mediators, the final aim is to determine the existence of other hidden interests derived from confidential information that could assist to solve the dispute. It should be mentioned that confidential information is considered by experts as poorly reliable for the solution of disputes. In fact, the legislator seems to encourage the use of an evaluative mediator in the case of an unfriendly agreement (see 3.1. "Facilitative and evaluative mediators").

#### **4. Education and training of mediators**

The suitable education and training of mediators is becoming a complex issue. Debate ensues on what constitutes adequate training on the principles of mediation as well as what personal attributes an individual needs in order to effectively carry out the role as a mediator. The education and training of mediators were first defined by the previously mentioned M.O. July 23<sup>rd</sup>, 2004 n. 222, and by the Decree of the Minister of Justice on July 24<sup>th</sup>, 2006.

The more recent Decree of the Government 28/2010 (art.16 paragraph 5) defines the necessary training activity and education requirements for mediators to enter/enrol in the official Registers of certified mediators.

The scheme provided by the M.O. 222/04 has been revised with the issuing of the recent M.O. 180/10. The most relevant modifications characterizing the new legal provisions for mediator training emerges from paragraph 3 of article 4, which set up the following two requirements:

- Qualifications: a first level degree (of any subjects) or, alternatively, participation in a professional order or council.
- Training courses: mediators need to hold a certification of attendance to a specific training course to be considered as a professional mediator. The course is provided by certified bodies and is 50 hours in duration with a two-year upgrade.

One of the most relevant aspects linked to this topic is that the previous M.O. 222/04 recognizes professionals of more than 15 years of practice or professors without the attendance to specific courses as mediators. With the new government provisions (G.D. 28/2010) training courses are now mandatory for everybody in order to guarantee the quality of the service.

The courses include real cases with supervised mediations; they have to cover techniques for managing controversies, communicating methods and they have to further analyse agreement issues, tasks and responsibilities of mediators. Mediators need to be aware of the importance of their practice and their training needs to clarify which characteristics the mediators have to focus on according to the previous sections of the present article.

To conclude, it is not possible to individuate training and education standards for mediators since there are several specific approaches requiring different levels of technical and theoretic backgrounds.

What can certainly be stated is that as far as any professional mediating activities are concerned, specific training is required. The acquired knowledge will be combined with personal attitudes in order to create a multifaceted professional role.

## References

- Antonides, G. (1991). "Psychological variables in negotiation", *Kyklos* N.44: p. 347-362.
- Atiyah P.S. (1979-1980). *From Principles to Pragmatism: Changes in the Function of the Judicial Process and the Law*, in *Iowa Law Review*, vol. 65, p. 1271.
- Cappelletti M. e B. Garth (1978). *Access to Justice*, vol. I, Milano- Alphenandenrijn.
- Carroll, J. S., Bazerman, M. H. e Maury, R. (1988). "Negotiator cognitions. A descriptive approach to negotiator's understanding of their opponents", *Organizational Behavior and Human Decision Processes* N.41: pagg. 352-369.
- Derek C. Bok (1988). *A Flawed System of Law Practice and Training*, p. 577.
- Guida al Diritto (Aprile 2011). "Il nuovo Codice della Mediazione civile aggiornato con l'ordinanza del Tar del Lazio", Il Sole 24ore.
- Guida Fiscale (Febbraio 2011). "La conciliazione. Cosa cambia dal 20 Marzo nel processo civile", a cura di Marino Longoni, Italia Oggi.
- Harsanyi, J. C. (1977) "*Rational behavior and bargaining equilibrium in games and social situations*", Cambridge, Cambridge University Press (trad. it. "Comportamento razionale e equilibrio di contrattazione", 1985, Milano, Il Saggiatore).
- Iannini, A. (2010). "Guida alla nuova mediazione e conciliazione. Commento sistematico aggiornato al d.m. 180/2010", Nuova Giuridica.
- Jacob I.H., *Access to Justice in England*, in Cappelletti M. and Garth B., *Access to Justice*.
- Jacob J.I., *The Fabric of English Civil Justice*, London, 1987, *La giustizia civile in Inghilterra*, Bologna, 1995, spec. pp. 27-35.
- Le Guide, Il fisco (Ottobre 2010). "La mediazione civile e commerciale", IPSOA.
- Lord Woolf, *Access to Justice Report*, section I: Overview, Paragraph 1.
- N. Andrews (2007). *I metodi alternativi di risoluzione delle controversie in Inghilterra*, in V. Varano, *L'altra giustizia*, Milano.
- Neale, M. A., Huber, V. L. e Northcraft, G. B. (1987). "The framing of negotiations: Content versus task frames", *Organizational Behavior and Human Decision Processes* N.39: p. 228-241.
- Pollock F. and Maitland F.W., *The History of English Law* (1968). Cambridge, , vol. 2, p.670-671.
- Rogers, C. R. (1942-2007) *Counseling and psychotherapy*, Rogers Press.
- Thompson, L. (1990). "The influence of experience on negotiator performance", *Journal of Experimental Social Psychology* N.26: p. 528-544.
- Viale, R. (1991) "*Metodo e società nella scienza*", Milano, Franco Angeli.

# LEAN MANAGEMENT IN HEALTHCARE ORGANIZATIONS. NEW EXPERIENCES IN ITALIAN CONTEXT \*

**Francesco Bifulco**, University of Naples “Federico II”,  
fbifulco@unina.it

**Carmen Raimondo**, University “Magna Graecia” of Catanzaro,  
carmenraimondo@yahoo.it

**Keywords:** *lean management, healthcare organizations, S-D logic, lean network*

## **Abstract**

Recent approaches on lean management (Shah, Ward, 2007), focused on S-D Logic (Vargo, Lusch, 2008), show a different interpretation about the identification of the benefits that the firms pursue as part of viable system, through interaction of many actors in complex networks, as it happens in the healthcare sector (Westwood, et al., 2007; Mcgrath, Bennet, 2008)

The research hypothesis wants demonstrate the knowledge and spread level of Lean in those organizations. The framework used aimed to promote the transfer of Lean best practices than other management methods. The empirical assessment is based on a direct and in-depth survey (18 healthcare Italian organizations).

Generally, the analysis shows how the most of structures involved claim to know Lean, but only some of them use it. Particularly, Lean helped improve quality of patient care and work processes in more of 50% of cases analyzed, although only few organizations would be available to join a potential “Healthcare Lean Network”.

The achievement of clinical and managerial results is facilitated by Lean in those healthcare structures that use it as a strategic management approach. Furthermore, the top-down approach is priority for the success of initiative.

## **1. Introduction**

In recent years, one of the most common topics of research and investigation in the healthcare context is related to the choice of innovative management models may be appropriate to address the critical issues due to the expense reduction, increased demand and total quality (Berry, Bendapudi, 2007, pp 111-116).

In fact, to sustain high performance and to deal with the economic instability, organizations must build the capacity to learn and keep changing over time through many forms of innovation (Gummesson, 2010a), and combine a vision on the state of sustainable high performance with a dynamic perspective on how they can transform themselves to achieve it (Lusch, Vargo, O'Brien, 2006, pp. 7-12).

In this context, the Lean Management Model, derived from Lean Thinking (Womack, Jones, 1996), bases its innovative strategy on combating inefficiencies through streamlining process in a continuous flow of operations (Dellande, Gilly, Graham, 2004). It is proposed as one way to achieve high productivity, quality improvement and waste reduction (Spear, Bowen, 1999) identifying and eliminating all activities that absorb resources for value creation (Graban, 2009).

\* Although this paper is based on a combined effort, par. 1, 4, 6 by Francesco Bifulco; par. 2, 3, 5, by Carmen Raimondo.

Lean has even been adopted in public sector organizations, as healthcare ones, and it means ensuring the priority value of protecting the right to heal (Bifulco, Brognieri, 2008) It focuses on things that matter, delivering the best performance through appropriate use of available resources and to allocate any resources saved in investment in continuous improvement of service quality and innovation activity (Gummesson, 2010b).

This paper presents an overview of the concept evolution of Lean followed by research results related knowledge and spread level of Lean in Italian healthcare organizations to assess the possibility to transfer lean best practices in other ones.

## **2. Lean management in healthcare sector**

Literature about Lean has identified main lines of research followed and the most significant conceptual positions on the application of Lean Thinking in the productive sectors (area in which it is originated) and in health, by which is been possible to reconstruct the evolution of the prevailing models and current theoretical and operational approaches<sup>1</sup>. They have been divided in two types: theoretical and empirical.

The first, closely related to the production sector, have focused their analysis about the importance of Lean principles (Womack, Jones, 1996) and the potential of the model to increase efficiency, quality, the total value to be distributed to the final customer through waste reduction, noting that the integration of the socio-technical system (people and tools) represents the condition required to achieve high performance (Spear, Bowen, 1999; Liker, 2005; Bhasin, Burcher, 2004; Hines, Holweg, Rich, 2005).

Particularly, two interpretations prevail in literature regards the Lean concept:

1) Operational and socio-technical ones, that emphasize the distinctive features of Lean Production in terms of integration between people, processes, tools and technology (Liker, 2004; Hines, 2004; Shah, Ward, 2002);

2) philosophical and strategic ones, that emphasize, on the one hand the key role of leadership, business culture, teamwork, the internal and external relationships (Liker et al., 2005); on the other hand, the synergic interaction between the operational perspective (process management, technology, tools, techniques) and strategic one (leadership, behaviors, participation). It relates to the development of a holistic management model derived from a new interpretation of the traditional model underlying Lean Production (Hines et al, 2008).

In this context, it has stressed (Doss, Orr, 2005; Stenzel, 2007) the key role of leadership in the integration processes for the deployment of lean to all levels. Transition to a lean culture is regarded as the most complex action as it requires involving all human resources, which are required thinking differently, taking new behaviors in problem solving, identifying those service-oriented processes that involve disproportionate resource consumption than the value created (Vargo, 2008).

Empirical studies of productive sector (Kosandal, Farris, 2004; Shah, Ward, 2007) have instead highlighted aspects of operational excellence, achieved by adoption of tools for work process analysis (Value Stream Map), methods and techniques of application (Process Kaizen and Kaizen Event). They presented the findings currently achieved by some companies involved in Lean Management projects, in terms of increased productivity, reduced costs, lower inventory and hours of work by product line,

---

<sup>1</sup> In both areas mentioned, research has stressed the presence of many contributions focusing on features underlying the traditionally dominant model (the Toyota Production System) in which, however, has highlighted the close relationship between the value creation for the final customer and systematic elimination of wastes (Bendapudi, Leone, 2003).

emphasizing how the impact on social and human aspects is still little studied (Hsieh, Chang-Hua, Ko-Chien, 2004, pp. 189-195).

Recent approaches focused on S–D logic (Vargo, Lusch, 2008; 2010) “views the customer as endogenous to the firm and part of the value network and this appears to be consistent i contemporary developments in both thought and practice in Supply Chain Management”. The customer is also considered a co-creator of value<sup>2</sup>.

Concerning the health sector, it comprises a high rate of studies that discuss the potential and importance of Lean principles, strictly adapted to the context. They help to set up a Lean Health Care System. Moreover, they emphasize value and quality concepts, deriving from this model and relevant literature on the value (Young, et al., 2004) and quality features.

According to a multidimensional approach, the study and analysis of these perspectives, has enabled the development of a possible representation of the global value in terms of customer satisfaction, including five dimensions of value (clinic, operational, experiential, economic, social). It is based on systematic interaction of all the above and should help to simplify the process of identifying the principal objective of a Lean Organization, through a redesign of work processes and customer roles that involves a gradual but radical change in cultural values, underlying the mission being pursued, reducing waste, saving resources and improving overall structure (Ouschan, Sweeney, Johnson, 2006).

Indeed, the nature and characteristics of context (complex structures) and cultural factors (resistance to change), have gained widespread attention, both in academic and professional literature. The first occur most frequently in health in order to proceed with the proper identification and disposal thereof, (Grabau, 2009). The others contribute to slow or even prevent the spread of Lean in healthcare organizations, as well as barriers and critical success factors (McAuliffe, 2006; Burgess, et al., 2008).

However, other studies have shown the importance of the main techniques and tools used in Lean healthcare organizations (Value Stream Mapping, Visual Management, 5S) for redesign of the operational aspects relate to providing care processes. They aimed detecting the status quo of the area/department/company and then the ideal future state, through standardized work procedures (Ben-Tovim, 2008; Dickson et al., 2009; Mcgrath, Bennet, 2008).

Finally, other studies are based mainly on experimental Lean model throughout the organization or a few areas (pilot projects). Through empirical analysis they have demonstrated the actual improvement of corporate performance in terms of cost reduction, response and waiting times, improved quality, patient satisfaction, staff and suppliers (Laursen et al., 2003; Kim, Spahlinger, 2006; Ghosh, Sobek, 2006; Nelsen-Peterson, Leppa, 2007).

### **3. Objectives and framework**

The contributions analyzed are the prerequisite for verifying the level of knowledge, spread and implementation of the Lean model in healthcare and the positive correlation between model application and overall business performance improvement. This is considered a necessary step to evaluate the possibility of implementation in other contexts, by proposing an advanced model, related to implementation of a Lean healthcare network, in order to facilitate transfer of best practice identified.

---

<sup>2</sup> Indeed, these two principles are related to Womack et al. (2005) Lean network in which Lean production is joining with Lean solutions or Lean consumption. Rather than viewing what the firm produces as outputs, it is viewed as an input and service which becomes part of a customer’s value creating activity (Xie, Bagozzi, Troyne, 2008).

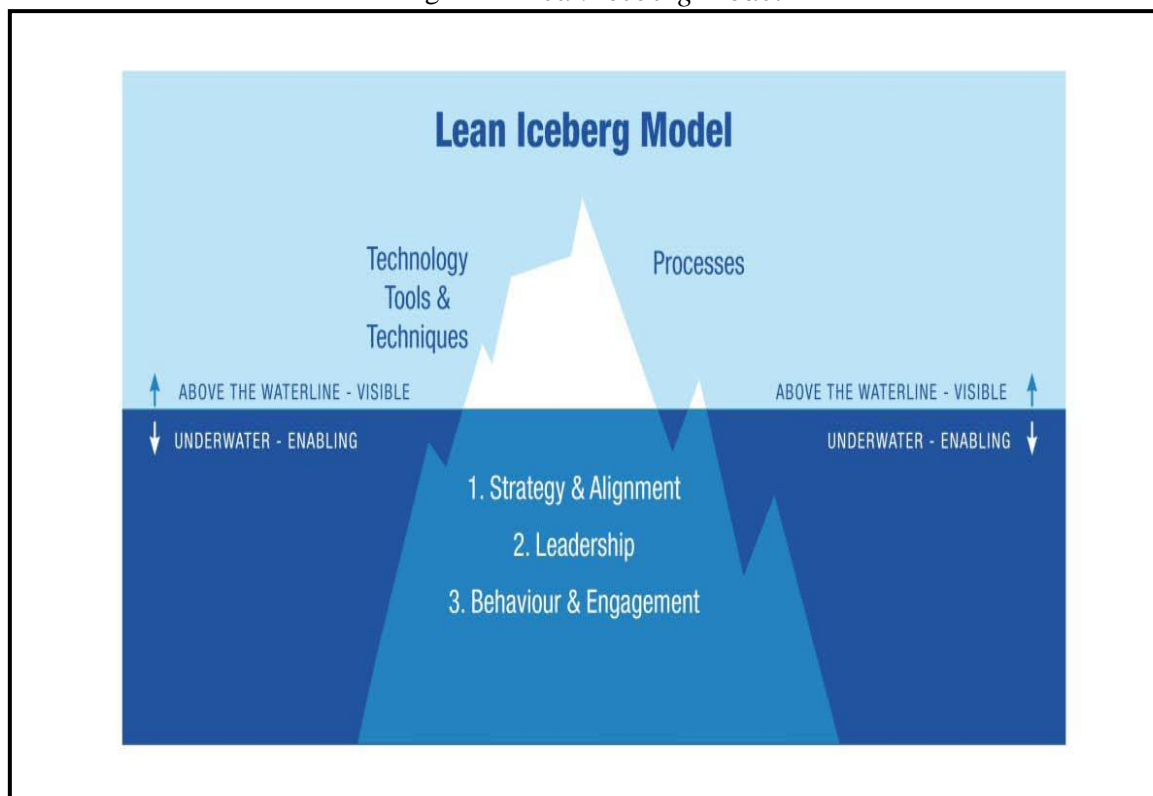


Through the analysis and study of the guidelines described, we tried to derive and develop a conceptual framework that emphasizes the close relationship between the philosophical (*Lean principles*), strategic (*Strategy*) and operational levels (*Tools*).

It is necessary for the development of a sustainable Lean organization, supported by a Lean culture that is gradually strengthened through continuous training, involvement and accountability at all levels. The framework taken as a reference point is the Lean Iceberg Model (fig. 1), designed around two levels and five foundations, which must work together to achieve performance excellence in all areas of the organization:

- 1) *Strategic Level*: strategy and alignment, leadership, behavior, engagement;
- 2) *Operational Level*: process management, technology, tools, techniques.

Figure 1 - *Lean Iceberg Model*



Source: Hines, Holweg, Rich (2005)

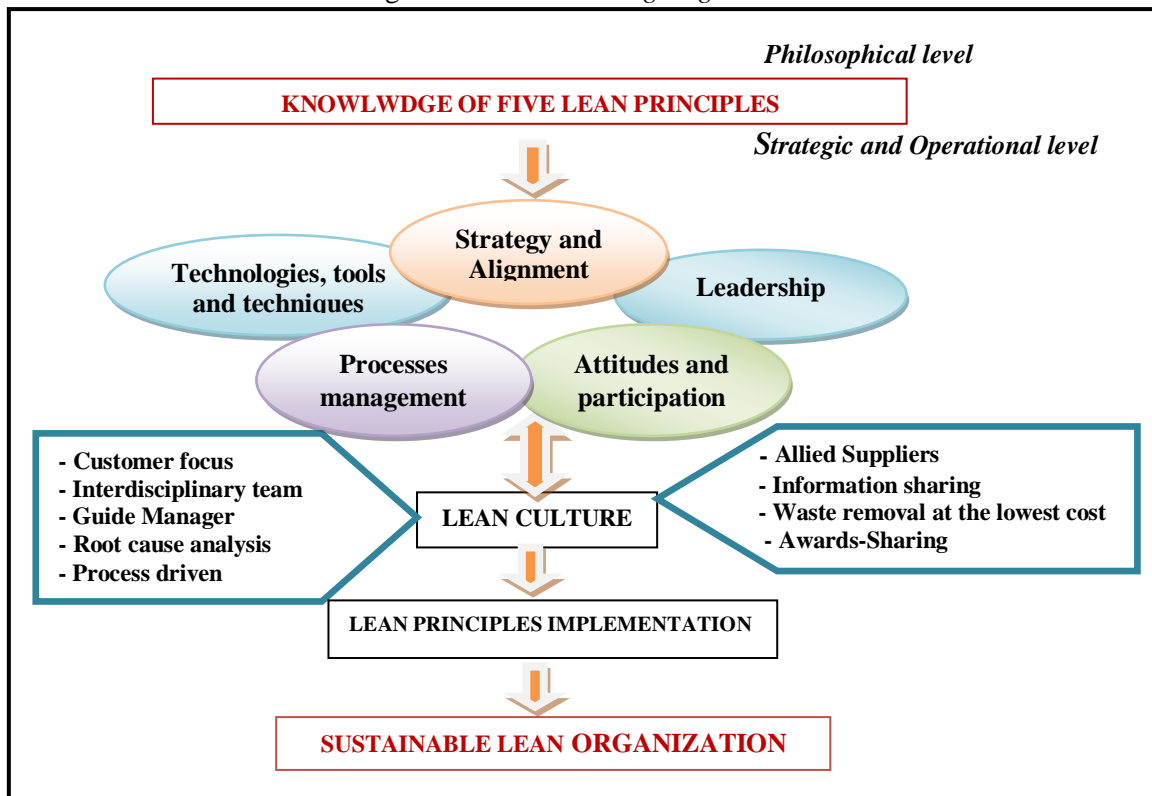
Model can be derived from the importance of the three intangibles and not visible, below the iceberg (strategic level) to encourage a real transformation towards a Lean culture.

However, only through the support from the operational elements visible, placed above the line it can ensure the sustainability of the organization in the long run<sup>3</sup>.

Through a revision of this model, it is possible outline the features of the Lean Learning Organization (fig. 2). The combined action of the elements highlighted is the basis for ensuring organization's sustainability. In fact, success implementation always depends on the organizational and cultural characteristics and the particular skills of human resources. They are considered the greatest obstacles to real change.

<sup>3</sup> On the one hand, it shows how the lack of one or more causes of failure stricken balance, on the other hand, the synergy between the elements produces a transformation from a traditional culture to a lean, ready to accept the lean principles, whose knowledge and learning are preconditions for their effective and efficient implementation.

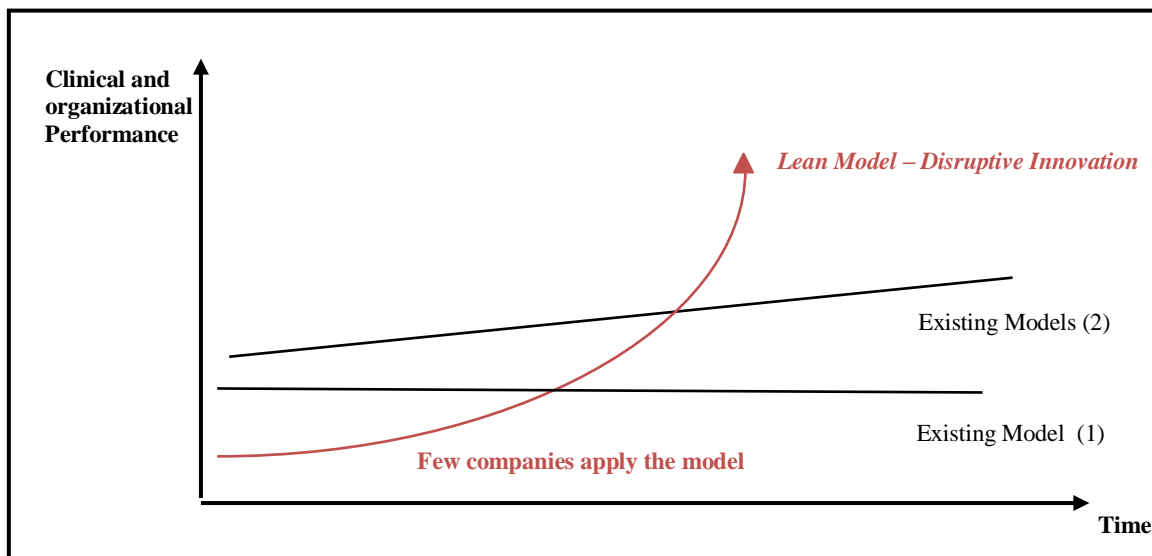
Figure 2 - Lean Learning Organization



Source: our elaboration

From this point of view Lean approach has been defined *disruptive innovation* (Womack et al., 2005), which is an way to contribute to the development of new models, radical changes in performance going to collide with and replace the existing process by requiring a separate strategy, before realizing the final process of integration (fig. 3).

Figure 3 - A possible representation of Disruptive Innovation Process



Source: our elaboration by Christensen (2008, p. 1330)

It means adopting a different way to coordination activities than traditional functional (new structure). These gradual, but radical, changes are the basis of the Lean leading to the introduction of new services, introduce an improvement of existing processes, new ways of care delivery (new processes). They require the development of new strategies and the acquisition of a new culture (Westwood, 2007), focused on intra-departmental team work (micro level) and inter-departmental network (macro level).

Therefore, mere knowledge of Lean principles (philosophical level) is not enough to ensure the success of an organization if it doesn't proceed simultaneously with a focus on people (leadership at all levels), on their involvement, motivation and empowerment in the search for innovative solutions to problems: they are considered an essential part of a Lean culture.

In fact, the main problems of the organizations are due to:

- cultural changes;
- lack of a strategic approach that considers the link between overall objectives;
- excessive concentration on processes, tools and targets to reduce costs and increase productivity, rather than on the people and objectives of creating more value, eliminating waste and improving the value flow for patients and other stakeholders.

#### **4. Methodology and empirical assessment**

The development of this work has been modeled along a dual process, theoretical and empirical. First, the research problem has been framed on the one hand through the literature review, and on the other through experiences significant of management<sup>4</sup>. At the empirical level, a survey was conducted to check the status of Lean implementation in healthcare, highlighting the possible relationship between the application of Lean model and overall business performance.

The descriptive nature of the research (Gummesson, 2000) has been induced from the consideration of manifold factors: the nature of the problem of search, the objective of the theoretical generalization and the level of the topic knowledge got through the theoretical exploratory study. The choice of the investigation "on field" by a qualitative method (multiple cases study) finds justification with the objective of study and with the nature of the phenomenon investigated (Yin, 2003).

A questionnaire was developed to collect data for this research. It was administered to a select group of 18 Italian healthcare organizations after direct contact with their referents to verify innovative models and tools used by healthcare organizations (Lean, BSC, TQM, etc.); and knowledge and dissemination degree of Lean model<sup>5</sup>.

It aims to acquire information on barriers encountered and key success factors, objectives pursued by the all companies, goals that have driven projects implementation and correlation may exist between model and results obtained.

At the conclusion of the above analysis, we proceeded to investigate the availability of organizations to join a potential Lean Health Network, as opportunities to develop a public-private partnership. It is intended to facilitate the sharing and dissemination of best practices identified.

---

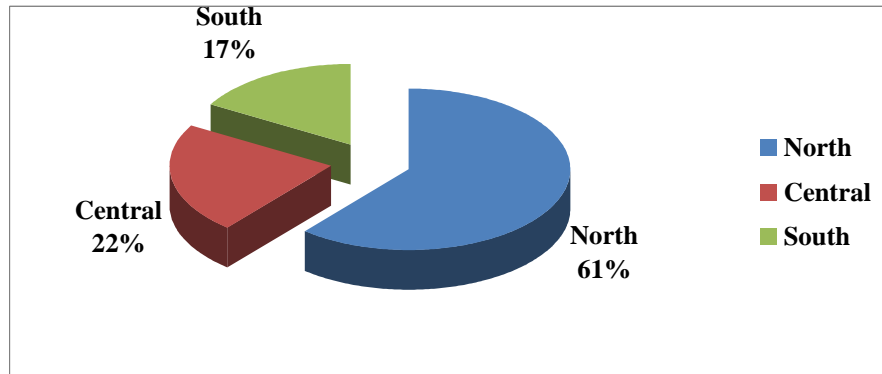
<sup>4</sup> Specifically, it has taken steps to acquire a set of public company information contained in documents (statutes, social reports), aimed at description and analysis of some national health care settings. They are considered significant for the overall performance achieved through the Lean implementation.

<sup>5</sup> The selection process of the companies took into account a number of factors identified as significant in the analysis (innovative projects already completed or under construction; inclusion of organizations that have successfully implemented Lean Management; widespread presence of information systems and technology to support the completion of these projects).

## 5. Main results

The units involved in the research project are 18 out of 26 Italian organizations contacted, of which 15 located in the Central North and 3 located in the South (fig. 4):

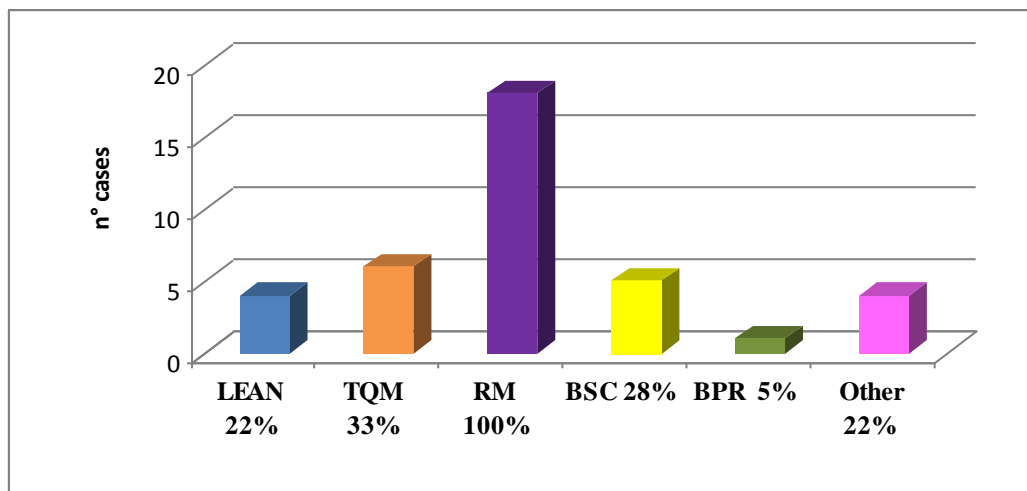
Figure 4 - *The geographic distribution of healthcare organizations*



Source: our elaboration

Respondents reported use of one or more management methods and the analysis shows that the most common is represented by Risk Management, implemented in 100% of cases, followed by TQM (33%) and BSC (28%). The Lean Model is implemented by 4 organizations (22%) and one intends to take it in the future (fig. 5).

Figure 5 - *Management methods used*



Source: our elaboration

Regarding analysis on critical success factors and barriers encountered in the implementation phase, it's possible observed that the results obtained, both in terms of critical success factors that barrier, confirming the data obtained from the literature and research carried out by several authors cited, on the issue. Particularly, it shows that among the factors that have contributed to the success of the most significant projects there are support management, resources availability, need of change.

Top management is considered as the most strategic factor in driving the business change processes and plays a key role to overcome the resistance expressed, especially by the medical staff, which is been indicated as an obstacle to all structures mentioned.

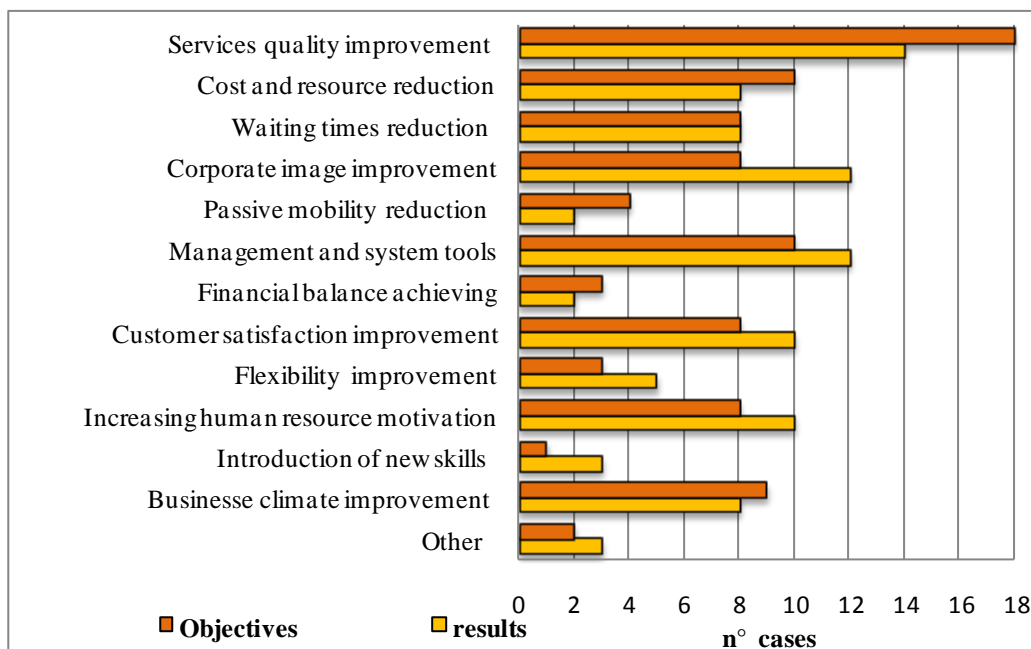
In fact, the analysis shows an important resistance factor (people) hardest to beat. It is represented by cultural and cognitive elements rather than organizational and structural ones (existing structure) for which any change, especially if radical, is perceived as a threat to consolidated habits, practices and actions.

The change perspective implies some uncertainty for people with high professional skill, that effectively limit their ability to recognize the potential of news (values, resources, tools) to deal with the complexity of the system and to streamline processes. The lack of knowledge, and the presence of inadequate layout” dimensions, is connected to the acquisition of new skills related to different ways of decision-making management, work and resource planning that require a targeted training and learning strategy.

The presence of inadequate layout stresses the need to change the organizational structure in light of new models and management tools.

Regarding the goals that have driven projects implementation, it is possible observed that the increase in the quality of service provided (78%) is the most important result (fig. 6). It followed by improved corporate image and the development of appropriate management and system tools (65%): these aspects have been exceeding the expectations of the objectives. Two other aspects should not be underestimated are improving customer satisfaction (external customer satisfaction, 56%), and increase motivation (internal customer satisfaction survey, 44%).

Figure 6 – *Projects implementation*

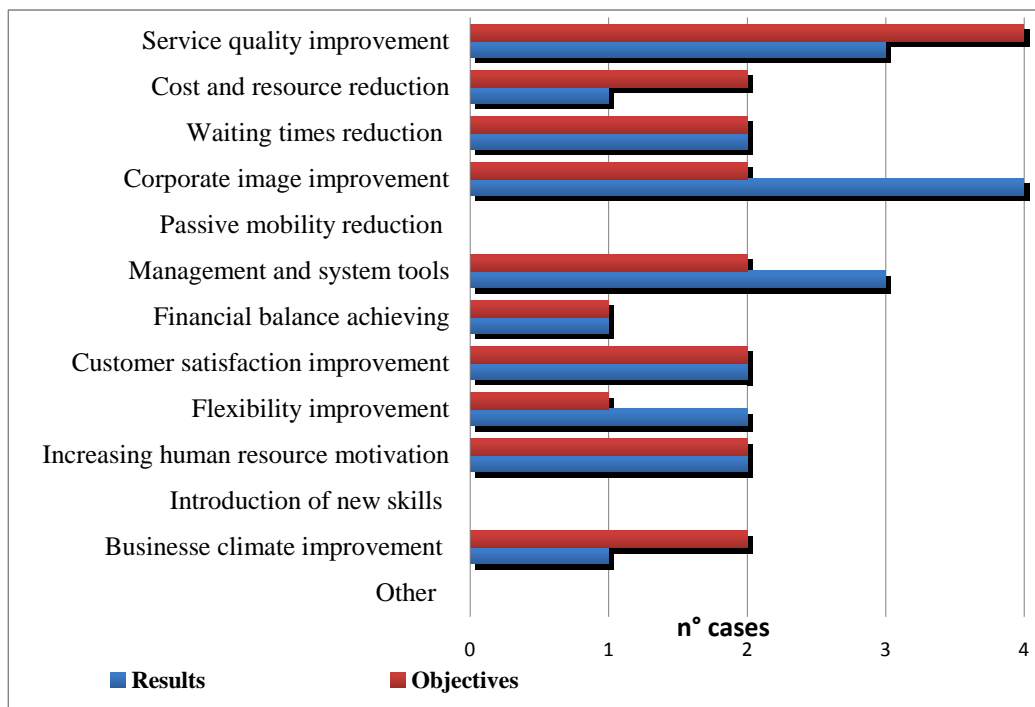


Source: our elaboration

With regard to Lean Organization, it's important to note that two of them use only Lean model, while the other ones also use other models (as Balanced Scorecard or Total Quality Management). In this context, most of the objectives set were reached; while on the side

of the critical issues, significant aspects relate to reduction in costs and resource use, and improving the business climate (fig. 7).

Figure 7 - Organizations which use LEAN ( objective and results)



Source: our elaboration

However, a more detailed analysis shows how the two organizations that have adopted the model, they had to find new strategies for simplification and redefinition of their structures, from the early stages of the project. They regarded as excessively large for the new requirements related to the objectives of improving quality and reducing waste. Nevertheless, Lean Model has produced important measurable benefits to quality, productivity and cost savings, showing an evidence of continuous improvement and organizational change, to meet the new and increasing demand (tab. 2).

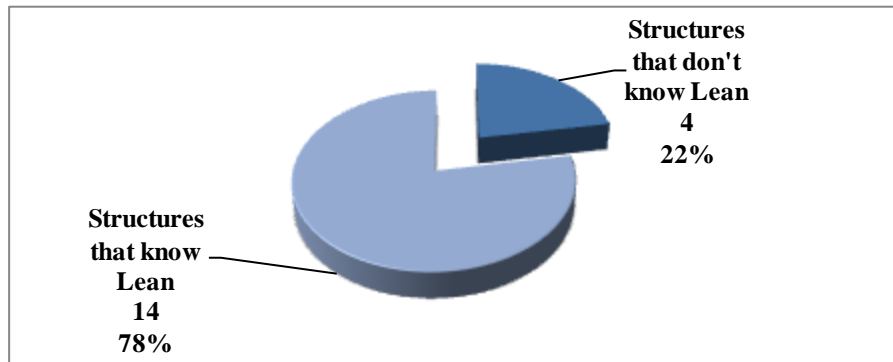
Table 2 - Features Italian healthcare organizations that adopted lean model

Organizations (project)	ASL FIRENZE OLA	AO GALLIERA GENOVA G.E.N.O.V.A
<b>Techniques used</b>	Kaizen, JIT; Value stream mapping; VM; Standard Work; PDCA	Kaizen; Just in time; VSM, VM, SW; PDCA; Hejunka; Cell design, Kanban
<b>Barriers</b>	<ul style="list-style-type: none"> <li>◆ Staff resistance</li> <li>◆ Lack of resources</li> <li>◆ Fragmentation of activities/layout</li> </ul>	<ul style="list-style-type: none"> <li>◆ Resistance by staff</li> <li>◆ Lack of knowledge</li> <li>◆ Presence of inadequate layout</li> </ul>
<b>Critical success factors</b>	<ul style="list-style-type: none"> <li>◆ Management and Staff support</li> <li>◆ Strong Leadership</li> <li>◆ Continuous improvement</li> <li>◆ Need for change</li> </ul>	<ul style="list-style-type: none"> <li>◆ Support of the Directorate</li> <li>◆ Outside support</li> <li>◆ Availability of resources, knowledge, skills</li> <li>◆ Need for change</li> </ul>
<b>Results achieved</b>	<ul style="list-style-type: none"> <li>◆ Redesign workspaces</li> <li>◆ Increased productivity</li> <li>◆ Reduction waiting-time</li> <li>◆ Reduction workplace timing</li> <li>◆ Increased accountability</li> <li>◆ Increased staff satisfaction degree</li> </ul>	<ul style="list-style-type: none"> <li>◆ Reduction space occupied by the surgical unit</li> <li>◆ Reduction overtime for nurses</li> <li>◆ Reduction stay in intensive care</li> <li>◆ Increased activity of day surgery</li> <li>◆ Increased cost savings</li> <li>◆ Increased training on Lean</li> </ul>

Source: our elaboration

This part of the empirical research aims to verify how much companies know and use the Lean model and to what extent are interested and willing to adopt it in the future. It is possible to observe that the level of knowledge is rather high (78%), also if only in a superficial way (fig. 8).

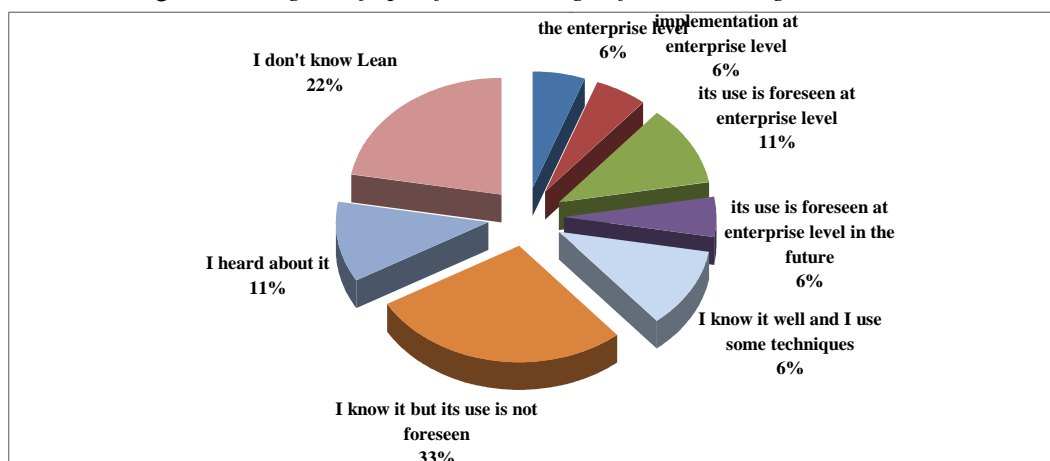
Figure 8 - Degree of generic knowledge of Lean Management Model



Source: our elaboration

In particular, it is possible to deepen the analysis through a more specific breakdown of the opinions expressed by the contact persons, discriminating against people (who doesn't know the model; who has heard of it; who knows it well but do not use it; who know it well and use it) as shown in the figure below (fig. 9).

Figure 9 - Degree of specific knowledge of Lean Management Model



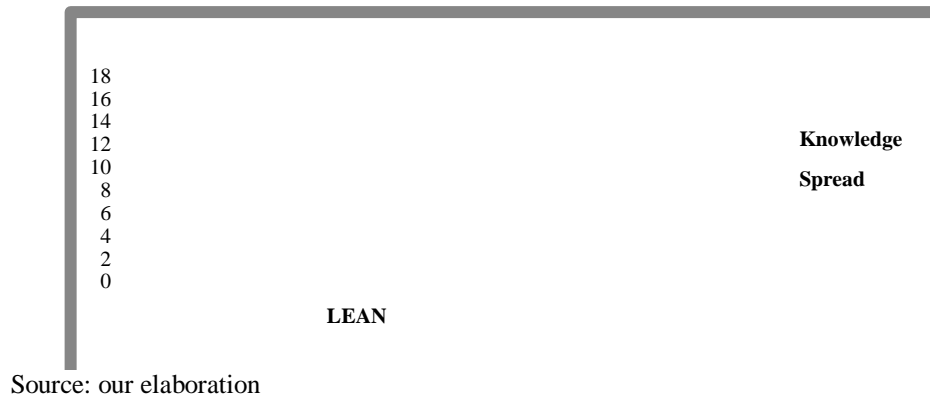
Source: our elaboration

Overall, the Lean has a very low level of diffusion. In fact, the structures that know it are 14, but 8 of them don't invoke it in the future, one of them says the possibility of introducing a model in the near future, and only five say they know/use it (fig. 10).

However, as mentioned above, among the organizations that claim to adopt it at the enterprise level, only two of these (ASL Firenze and AO Genova) have decided to proceed to a full integration Lean (model and philosophy) in the process of formulation,

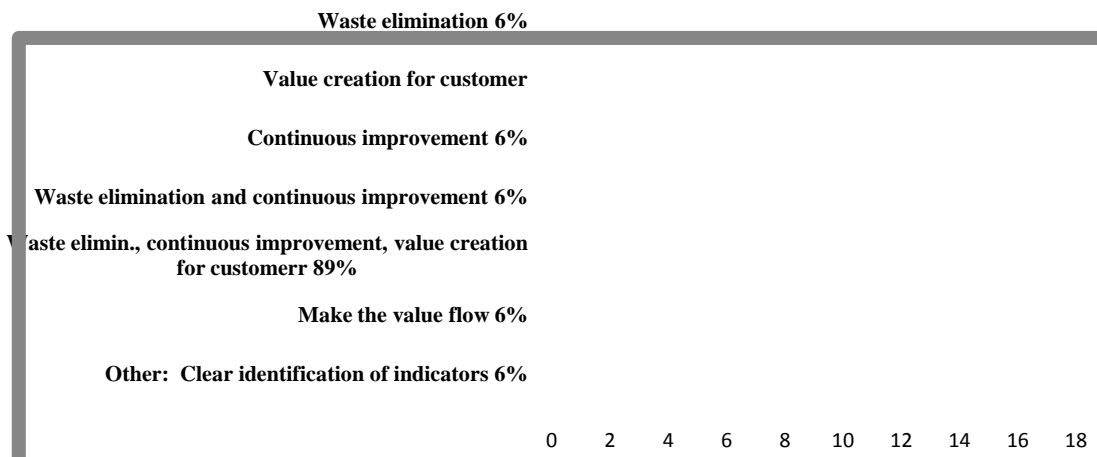
implementation and sharing strategic, facilitated by a strong commitment and propensity of the company board for innovation processes<sup>6</sup>. In contrast, other structures have decided, at present, to test the model only in some areas of their organization.

Figure 10 – Propensity to knowledge/spread



This conclusion is further confirmed by the results as follows, which aim to identify the knowledge degree about the main objectives of Lean healthcare organization. The 89% of them gave the correct answer, demonstrating that they have a deep understanding of the phenomenon, although some of them did not know and/or use the Lean (fig. 11).

Figure 11 - Main goals pursued by a Lean Organization



At last, organizations that said to know and/or use the model Lean, they expressed about their willingness to join a potential Lean Network, specifically related to the health

<sup>6</sup> These items can be found even in official documents of these companies (balance of mission, business reports), in which a prevailing tendency to emphasize how the use of a management model, considered innovative in itself, might be the best answer to the problem of organizational complexity and customization of services and benefits.



context, focused on the experiences exchange and benchmarking (93% of respondents). Currently, only two structures, promoters of Lean initiatives at the enterprise level, acceded to the Lean Enterprise Centre Italy, the consortium "HealthCare Management Association" and SALTH.

This result shows the potential of the model at both theoretical and practical levels, to configure an advanced network of internal relationships that could evolve into complex interactions with other, until the establishment of a real Lean Healthcare Network, recognized at the institutional level.

## **6. A possible framework for a *Lean Healthcare Network***

The findings highlight that organizations using Lean as a strategic management approach, claim that Lean model implementation has relied on a strong commitment by management (top-down approach), showing a taste for innovation and continuous improvement.

In fact, in some cases examined it was found that decision makers have adopted a corporate policy directed to the concrete cooperation with all departments to facilitate the deployment of Lean Management, with a view to defining improvement projects (goals short period) consistent with the strategic objectives, through a constant presence, commitment and support of the top management in all project phases.

On the other hand, the Lean approach is a set of ideas, concepts and tools that lead to different and pragmatic vision of the global operational mode (teams/processes), through incremental and rapid improvements: the application of techniques in the structured analysis process is intended to represent the manner of performing the work in its entirety. The human factor is the critical element of success to overcome any difficulties in implementation and to facilitate the integration of model in the corporate strategy. In particular, it was observed that the involvement of staff at all organizational levels, it has allowed to test the possibility of achieving gradual but visible improvements.

These results emphasize the possibility of creating a dynamic interactions system (fig. 12) between different actors in order to share/transfer best practices through the implementation of a public-private partnership, developed on two levels.

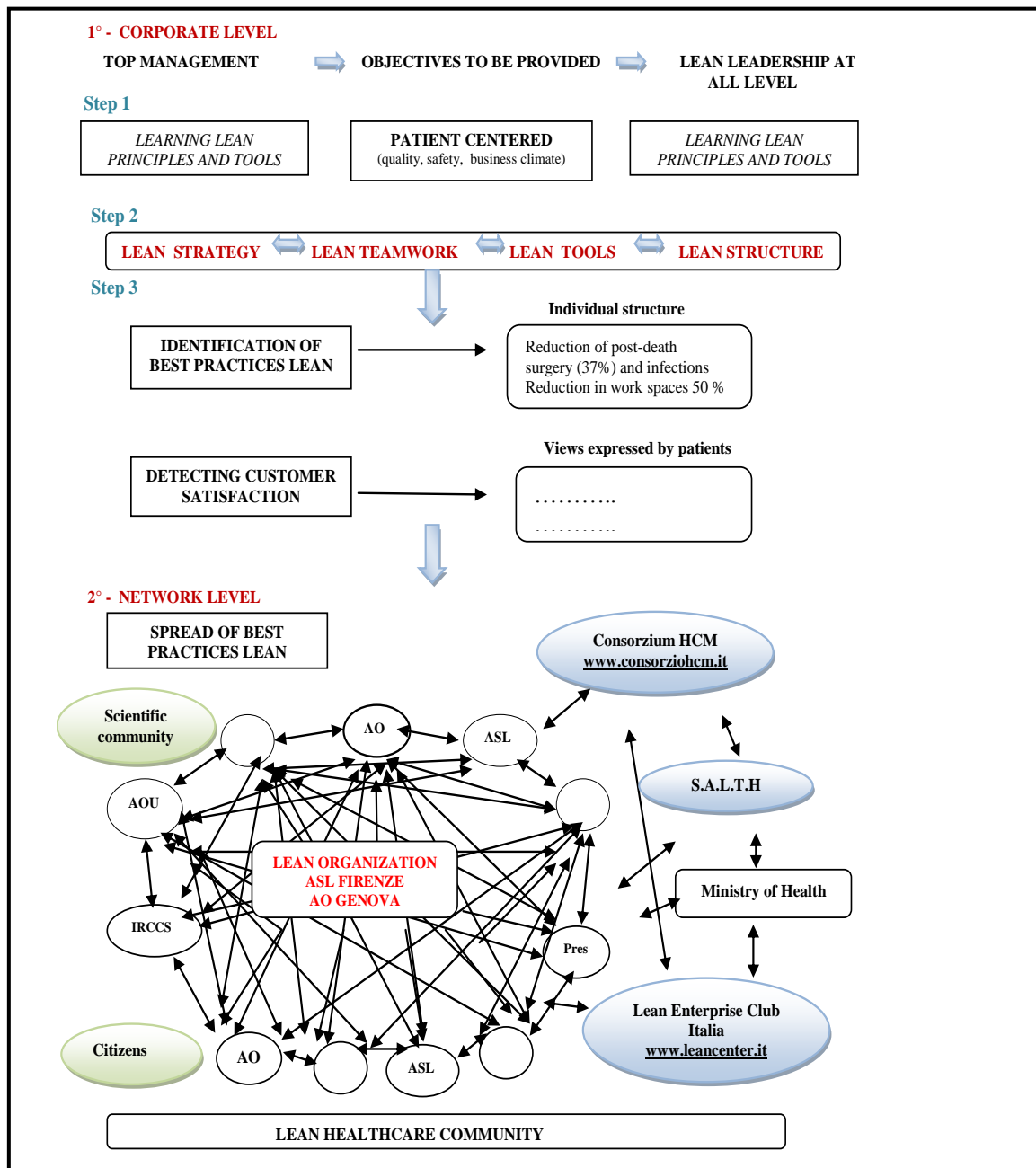
At the corporate level, the healthcare organizations should take decisions on three strategic choices focused on organizational and structural process; cultural and ethical values (patient-employee behaviors, stakeholders relationship); efficiency objectives (public resources saving).

At the network level, the path develops with continuous interactions between private/public organizations, through the creation of Lean Healthcare Communities. It aims to aggregate all those interested in the Lean approach and who are willing to put at the service of others their experiences.

Ultimately, this process of reengineering implies a systematic effort to develop relational skills, aimed at reducing the information gap related to a set of factors (value, resources, commitment, leadership) between public and private organizations and to create long-term trust systems.

In this way, lean networks highly integrated could represent an innovative solution to facilitate and promote the culture of sharing best practices (philosophy, people, technology, tools) so do not remain confined to contexts considered excellent, but to help to bring out the potential in other structures.

Figure 12 - Healthcare Lean Management Network



Source: our elaboration

## References

- Bendapudi N., Leone R.P., (2003), *Psychological Implications of Customer Participation in Co-Production*, Journal of Marketing 67 (1) , 14-28.
- Ben-Tovim D.I., Bassham J.E., (2008), *Redesigning care at the Flinders Medical Centre: clinical process redesign using “lean thinking”*, MJA. vol. 188, n. 6, S29.
- Berry L. L., Bendapudi N., (2007), *Health Care: A Fertile Field for Service Research*, Journal of Service Research 10, 111-122.

Bhasin S., Burcher P., (2004), *Lean viewed as a philosophy*, Journal of Manufacturing Technology Management, Vol. 17, n. 1, pp. 56-72.

Bifulco F., Brognieri W., (2008), *Risk management and performance measurement: excellent experiences in Italian health care institutions*, Proceedings of the 11th Toulone-Verona International Conference on Quality in Services: higher education, health care, local government, tourism, banking, (ed. Moliterni R.), pp. 302-313, Firenze University Press.

Burgess N., Radnor Z., Davies R., (2008), *Taxonomy of lean in healthcare: a Framework for evaluation activity and impact*, Warwick Business School, University of Warwick.

Dellande, S., Gilly, M. C., Graham J.L. (2004), *Gaining Compliance and Losing Weight: The Role of the Service Provider in Health Care Services*, Journal of Marketing 68 (July), 78-91.

Dickson E., Anguelov Z., Vetterick D., Eller A., Singh S., (2009), *Use of Lean in the Emergency Department: A Case Series of 4 Hospitals*, Annals of Emergency Medicine, vol. xx, N. 10.

Doss R., Orr C., (2005), *Lean Leadership in Construction*, Proceedings IGLC-13, July 2005, Sydney, Australia.

Doss R., Orr C., (2007), *Lean Leadership in healthcare*, RWD, www.rwd.com

Ghosh A.M., Sobek D. K., (2006), *Pragmatic Problem-Solving for Health Care: Principles, Tools, and Applications*, Proceedings of the 2006 Annual Society of Health Systems Conference, San Diego, CA.

Graban M.,(2009), *Lean Hospital: Improving quality, patient safety and employee Satisfaction*, CRC Press NY.

Gummesson E., (2000), *Qualitative Methods in Management Research*, Sage, Newbury Park revised edition.

Gummesson, E. (2010a), *The new service marketing*, in Baker, M.J. and Saren, M. (eds), Marketing Theory, Sage, London.

Gummesson, E. (2010b), *Future of service is long overdue*, in Maglio, P.P., Kieliszewski, C.A. and Spohrer, J.C. (eds), Handbook of Service Science, Springer, New York, NY.

Hines P., Holweg M., Rich N., (2005), *Learning to evolve: a review of contemporary Lean Thinking* in Mayle D., Managing innovation and change, Sage Publication.

Hines P., Found P. et al., (2008), *Staying Lean*, LERC, Cardiff Institute of Innovation and Improvement.

Hsieh AT., Chang-Hua Y., Ko-Chien C., (2004), *Participative customers as partial employees and service provider workload*, International Journal of Service Industry Management 15(2), 187-199.

Kim S., Spahlinger D.A., (2006), *Lean Health Care: What Can Hospitals Learn from a World - Class Automaker?*, Society of Hospital Medicine, Wiley (www.interscience.wiley.com).

Kosandal P., Farris J., (2004), *The strategic role of the kaizen event in driving and sustaining organizational change*, 25th Annual National Conference American Society for Engineering Management, ASEM, Oct.

Laursen, M. L., Gertsen F. G., Johansen, J., (2003), *Applying Lean Thinking in Hospitals*, 3<sup>rd</sup> International Conference on The Management of Healthcare & Medical Technology Proceedings, Warwick, United Kingdom.

Liker, J.K., (2005), *The Toyota Way, 14 Management Principles from the World's Greatest Manufacturer*, McGraw Hill, New York.

Lusch R. F., Vargo S. L., Tanniru M., (2010), *Service, value networks and learning*, Journal of the Academic Marketing Science, 38:19–31

Lusch R., Vargo S., O'Brien M., (2006), *Competing Through Service: Insights from Service – Dominant Logic*, Journal of Retailing 83 (1), 5-18.

McAuliffe J., Moench T., Wellman J., (2006), *Lean Leadership: Three phases of development*, HHN Magazine, www.hhnmag.com

McGrath K. M., Bennett D. M., Ben - Tovim D. I., (2008), *Implementing and Sustaining transformational change in health care: lessons learnt about clinical process redesign*, S32 MJA, vol. 188, N. 6, 17 March, supplement the Medical Journal of Australia, www.mja.com.au.

Mechi M.T., Gemmi G., (2008), *Programma OLA*, AS Firenze.

- Nelson-Petterson D.L., Leppa C.J., (2007), *Creating an environment or caring using Lean principles of the Virginia Mason Production System*, Journal of Nursing Administration, vol. 37, n. 6, pp. 287-294.
- Ouschan, R., Sweeney, J., Johnson, L. (2006), *Customer Empowerment and Relationship Outcomes in Healthcare Consultations*, European Journal of Marketing, 40 (9/10), 1068-1086.
- Shah R. and Ward P., (2002), *Lean manufacturing: context, practice bundles, and Performance*, Journal of Operations Management, 21(2):129-150.
- Shah R., Ward P., (2007), *Defining and developing measures of lean production*, Journal of Operations Management, 25:785-805.
- Smeds R., (1994), *Managing Change towards Lean Enterprises*, International Journal of operations and production management 14(3): 66-82, (2).
- Spear S. and Bowen H.K., (1999), *Decoding the DNA of the Toyota Production System*, Harvard Business Review, Sept.-Oct., 77(5), 97-106.(9)
- Stenzel J., (2007), *Lean accounting: best practice for sustainable integration*, Wiley.
- Vargo S. L., Lusch R. F., (2008), *Service – Dominant Logic: continuing the Evolution*, Academy of Marketing Science 2007, 1-10
- Vargo, Stephen L. (2008), *Customer Integration and Value Creation: Paradigmatic Traps and Perspectives*, Journal of Service Research, 11 (Nov) 211-215.
- Westwood N., James-Moore, M., and Cooke, M, (2007), *Going Lean in NHS*, NHS Institute for Innovation and Improvement.
- Womack J. P, Byrne A., Fiume O., Kaplan G. and Toussaint J., (2005), *Going Lean in healthcare* in Miller D., Innovation Series, Cambridge: Institute for Healthcare Improvement.
- Womack, J.P., and D.T. Jones , (1996), *Lean Thinking*, Simon & Schuster, NY.
- Xie C., Bagozzi R. P., Troyne S. V., (2008) *Trying to Prosume: Toward a Theory of Consumers and Co-creators of Value*, Journal of the Academy of Marketing Science, 36 (1), 109-122
- Yin, R. K ., (2003), *Case study research*, Sage Publications Inc., N.Y.
- Young T., Brailsford S., Connel C., Davies R., Harper P., Klien J., (2004), *Using Industrial Processes to Improve Patient Care*, British Medical Journal, Vol. 328 pp. 162-164.

# GEOMARKETING TO SUPPORT THE STRATEGIES OF THE GARDALAND AMUSEMENT PARK\*

*Angelo Bonfanti - Paola Castellani - Chiara Rossato*

University of Verona - Department of Business Administration (Italy)

E-mail: *angelo.bonfanti@univr.it; paola.castellani@univr.it; chiara.rossato@univr.it*

## 1. Introduction

Business analyses regarding sales, distribution, logistics, communication, customer service and competition (De Luca, 2009), as well as consumer purchase behavior, localization choices and marketing management applications (store marketing and direct management) (Cliquet, 2006) are just a few of the many decisions that a company takes on the basis of territory-linked information and data.

These consist of a large amount of spatial elements that businesses, of whatever size and sector, are not always able to fully exploit. It is possible to assert, without going into details of these difficulties, that some of them have been overcome by developing (Mauri, 2000; Pilotti and Sedita, 2002):

- geographic information systems (GIS),
- software able to effectively and efficiently process electronic mapping,
- large data banks reorganized from territorial standpoints.

The approach for analyzing the territory study, using geography and statistics, is being developed through geomarketing which lets us procure precious information for the company decision-making process specifically focused on territory-linked business opportunities: “businesses, thanks to geomarketing, are able to enhance the spatial dimension of a great amount of data constantly generated by the in-house IT system and, following this path, to relate them to external data referring to similar territories” (Mauri, 2000, 213).

In other words this tool permits businesses to analyze, segment and know their reference market, customer characteristics, the geographic area in which they do business, pass through or reside, reaching specific commercial and marketing targets and implementing initiatives aimed at the attraction area under examination (Cardinali, 2010). In this way it meets the need of every business to make the best use of available resources, both by discovering hidden potentials and by streamlining and optimizing investments (Galante and Preda, 2008, 37-38).

For the purpose of achieving geomarketing analyses a business may turn to specialized agencies or research institutes. However quite a few companies, especially multinational companies, invest resources and expertise to create in-house structures dedicated to implementing this analytical approach in order to direct their actions on the territory and ensure greater dynamism and competitiveness.

Gardaland, one of Italy's main amusement parks, made this second choice: in 2009 it set up a Trade and Geomarketing Department to analyze the impact of its investments in communication on both local and national territories in order to grow from a touristic-competition standpoint. In particular it applies geomarketing to support the communication in sales management and the actions to implement in direct marketing.

This paper, after a brief theoretical introduction, analyzes the purposes and the procedures by which Gardaland is defining, in a basically innovative way, geomarketing that supports (and guides) strategic decisions for investing resources in the territory. The experience that is collected leads to some reflections that go beyond the single case being examined.

---

\* While this paper is the result of reflections made jointly by the Authors in terms of final drawing up paragraphs 1, 2, 3, 7 are to be ascribed to Angelo Bonfanti, paragraphs 4.4, 5, 6 to Paola Castellani and paragraphs 4.1, 4.2, 4.3 to Chiara Rossato.

We wish to thank Dr. Massimo Zuccotti, Manager of the Gardaland Trade and Geomarketing Department, for his precious collaboration and for the interviews he granted us thanks to which we were able to achieve these results.

## 2. Literature review

In this section, we provide an overview of many results published in two areas of interest to this paper. The first regards the multidisciplinary and non-univocal nature of geomarketing. The second presents the main sectors of application of geomarketing.

### 2.1 *Multidisciplinary and non-univocal nature of geomarketing*

Geomarketing was created, in academic circles, at the beginning of the nineteen eighties (Birkin *et al.*, 1996; Latour and Floc'h, 2001) and began being spread, at technical-operational levels, thanks to availability of several advanced tools for quantitative data analysis regarding business and territory, the so-called Geographic Information Systems (GIS) (Denègre and Salgé, 1996). Businesses, using these software packages, are able to give social and economic significance to geographic data, able to extract the greatest possible amount of data for outlining future strategic conduct. In other words geomarketing, through GIS, permits the company to generate knowledge (Pilotti and Sedita, 2002, 20).

Several disciplines are involved in geomarketing including:

- economics and economic geography (i.e. Golledge and Stimson, 1997) and spatial economics (i.e. Eymann, 1995) in particular;
- statistics, specifically spatial statistics (i.e. Arbia, 1993; Goodchild *et al.*, 1993; Mardia, 1993; Mardia and Kanji, 1994; Espa and Arbia, 1995),
- Information Technology,

each giving contributions of a mainly applicative nature (Cardinali, 2010, 15).

From a business perspective research primarily started in the mid-nineteen nineties. At the beginning one spoke of place marketing (Kotler *et al.*, 1993), characterized by several specific activities such as a) the definition of a correct mix of structural characteristics and services offered in the area b) the arrangement of a system of incentive for the current and potential users of the services and infrastructures of the area c) the singling out of distribution systems for the services and products made in the area and finally d) promoting the image of the area with the objective of forming a correct perception in the potential user (Aiello and Donvito, 2006, 2).

The concept of geomarketing has spread through literature, primarily Italian (Pozzana, 1998; Mauri, 2000, 2001 and 2007; Pilotti and Sedita, 2002; Gibin, 2004; Sbrana and Gandolfo, 2007; Galante and Preda, 2008; Votino, 2008; Scravaglieri, 2009; Cardinali, 2010) and French (Douard, 2002; Latour and Floc'h, 2001; Douard and Heitz, 2004; Cliquet, 2002 and 2006).

In the Anglo-Saxon area, on the other hand, it is more common to use other terms such as GIS and Spatial Decision Support System (SDSS) (Grether, 1983).

On the one hand the contributions offered in the various disciplines are fragmentary and not homogeneous. On the other researchers employ terminology that is not univocal. This has led to:

- proliferation of a wide variety of definitions and analysis perspectives,
- diffusion of a certain amount of terminological confusion,
- the lack of a path of studies able to provide an overall vision of the applications and implications of geomarketing.

### 2.2 *Main geomarketing implementations*

According to Hess *et al.* (2004) geomarketing is a circumscribed study environment. However research has shown that there are many possible applications for geomarketing, tied to different economic sectors.

Researchers and managers of trading firms are the main users of this tool (Campo *et al.*, 2000; Mauri, 2000; Pilotti and Sedita, 2002; Baccarani, 2005; Verhetsel, 2005; Cliquet, 2006; Volle, 2006; Sbrana and Gandolfo, 2007; Vyt, 2008). Their main purposes are the following:

- find new channels and new distribution procedures,

- classify the sales network,
- determine sales areas,
- plan the number of points of sale,
- monitor store performance,
- put forward targets, budgets and action plans,
- assess competitive pressure in the reference territory,
- know their own position compared to competitors,
- estimate and monitor the impact of promotional actions on the territory,
- streamline shipping and distribution plans.

The banking sector, too (Durance and Moutet, 1997; VV.AA., 2002) and, in parallel, the insurance and financial sectors, turn to geomarketing, mainly for the purpose of performing activities regarding localization of branches, strategic control and drawing up of offers able to efficiently and effectively meet the requirements of customers in a particular territory.

Other geomarketing actions have been implemented in the following sectors (Cardinali, 2010, 25):

- real estate, tracing demand characteristics starting from the residential assets of the territory and the composition of families and leading to definition and articulation of supply;
- advertising, where target identification, differently distributed over the territory, can be the key to success of a campaign (Marzloff and Bellanger, 1996);
- tourism which uses theme maps for spatial analyses to create holiday, food and wine, naturalistic itineraries, etc.;
- logistics where analysis of the territory, road network and paths is strategic in order to optimize handling of goods;
- telecommunications.

The communication sector is one application of geomarketing that appears, at least in theory, to be less widespread. The company, by means of targeted actions, whatever they may be, may, for example, pursue actions aimed at the peculiar characteristics of a specific area, more effectively select the most suitable communication tools, define posting areas, select the events that are most consistent with the target market, create mailing lists and offer specific products localized only to certain areas. In other words it may use geomarketing to direct its own investments in communication and thus strengthen its own competitive edge.

An examination of how it is possible to move in this direction comes precisely from an analysis of the activities pursued by the Gardaland Trade and Geomarketing Department in this connection.

### **3. Methodology**

An analysis of the case of the Gardaland company, by means of interviews with managers of the Amusement Park, was performed in parallel with a theoretical study on geomarketing.

Analysis of literature was performed at both Italian and international levels. In particular it was possible, by searching for the term “geomarketing” in the title, abstract and full text input in the Business Source Premier online data bank and in the collective catalogue of the English libraries that participate in the Consortium of University Research Libraries (COPAC), to collect a small number of articles and books regarding this issue. More ample results came from works published in texts and Italian magazines.

The case investigation turned, in the first stage, to storytelling: during the first meeting with Dr. Massimo Zuccotti he was deliberately left free to openly explain, after an initial input question, the experience gained in the company related to creation and development of the Trade and Geomarketing Department which he directs. More specific subjects were investigated during following meetings, using targeted and structured questions about the foundations and the operating dynamics of the initiatives that have been undertaken as well as regarding future project prospects.

## 4. Geomarketing in Gardaland

### 4.1 The specific characteristics of the Gardaland product

The Gardaland Amusement Park was founded in the mid nineteen seventies on Lake Garda (Italy), more specifically in the area of Ronchi at Castelnuovo del Garda, between Lazise and Peschiera and 20 km away from Verona. Today the Park, compared to the initial surface area of 90,000 square meters housing 21 attractions designed to amaze either adults or children and immersed in a fabulous world where visitors can give free rein to their imagination, now extends over a parkland covering more than 500,000 square meters and has an ample selection of attractions (more than 40 of which 13 are shows) plus 5 theme villages (Fantasy Kingdom, Medieval Area, English Village, Arab Souk, Rio Bravo) (Fig. 1).

Fig. 1 - Gardaland Map



Source: <http://www.gardaland.it>



Over the years it has constantly invested to enlarge its surface area and introduce new services and attractions, for the purpose of strengthening an offering that currently attracts more than 3.2 million visitors per year.

For over thirty years it has been an important point of reference for amusement of all ages, both Italian and foreign visitors. It is considered to be the largest Amusement Park in Italy and one of the largest in Europe. It offers its guests all of 13 different shows for a total of 25 shows per day plus many facilities for theme dining (5 restaurants and fast food as well as 11 bars and stands), 11 merchandising shops connected to the various themes offered by the Park and attractions that are unique and that lead visitors to discover distant and fantastic worlds through a network of paths surrounded by green and flowering gardens with hedges trimmed in the most original shapes, all of which add to the attraction of the entire environment.

The Gardaland product was enriched with several innovations between 2002 and 2008. These have had a significant impact on de-seasonality and diversification of its attraction capacity:

- opening of “Gardaland Magic Halloween” (the so-called “theming” of the month of October)<sup>1</sup> (starting in 2002),
- opening of “Gardaland Magic Winter” (starting in 2002),
- opening of the Gardaland Hotel Resort (starting in 2004),
- the opening of the Gardaland See Life Aquarium (starting in 2007),
- purchase of the “Acquatica” Park in Milan, transformed into Gardaland Water Park (starting in 2007).

The Gardaland Hotel Resort, an international four star hotel, is located just a few hundred meters from the entry to the Park to which it is connected by a free shuttle bus service. It is composed of four Victorian buildings placed around a central park area. The hotel offers 236 superior rooms, 6 suites, 5 junior suites, one internal shop, 5 congress rooms, an outdoor pool area and animation services (<http://www.gardalandhotel.it>).

The Gardaland See Life aquarium makes it possible to admire approximately 5,000 species of marine creatures subdivided into 37 theme basins that propose different natural habitats, from the Sarca river on Lake Garda to the Red Sea and the Indian Ocean. The structure is outstanding for the support it gives to various sea life research and safeguarding programs and for its high level educational-teaching content.

Gardaland Hotel, Gardaland Park and Gardaland See Life Aquarium are also exclusive locations for conventions, symposiums, meetings, recreational and motivational activities. The 5 halls in the Gardaland Hotel add to the 3 halls in Gardaland Park, first and foremost the Gardaland Theater which has the capacity to seat 1,300 persons.

The in-house organization of the company, faced with such product development, has gradually developed, assigning communication a key role to support corporate strategies.

In this connection, while pursuing this examination of the case of Gardaland, in-depth examination shall be given to the activities of the Trade and Geomarketing department, deeply connected to the company communication strategy.

#### 4.2 *Evolution of in-house organization: the birth of the Trade and Geomarketing Department*

The communication function, from the standpoint of in-house organization of Gardaland at the present state, is managed by Marketing and Communication Management which is divided into the following department:

---

<sup>1</sup> For the 2011 season the park opens: from April 1<sup>st</sup> to June 16<sup>th</sup> and from September 12<sup>th</sup> to October 2<sup>nd</sup>, every day from 10 A.M. to 6 P.M.; from June 17<sup>th</sup> to September 11<sup>th</sup>, every day from 10 A.M. to 11 P.M. The “Magic Halloween” period envisages the Park to be open on weekends during the months of October: 8-9, 15-16, 22-23, 29-31 + 1 November, from 10 A.M. to 6 P.M. The “Magic Winter” period envisages the Park to be open on weekends during the month of December and during Christmas holidays: 3-4, 8-11, 17-18, 23-24, 26-31 + 2-8 January, from 10 A.M. to 6 P.M. For other information go to the web site <http://www.gardaland.it>

- Gardaland brand marketing and communication,
- See Life and Gardaland Resort brand marketing and communication,
- co-marketing and sponsorship,
- web communication,
- communication with the media and public relations.

Up to two years ago this structure also included the Geomarketing and Special Events department which was subject to a move to implement the activities superintended by the Sales Management. This change in the company organization chart, desired by Dr. Luca Marigo, Marketing and Sales Manager, on input from the English parent company, Merlin Entertainments Group Ltd, became expedient in order to align company action strategies connected to achieving sales targets, considering the precious support given in this regard by the geomarketing and special events initiatives.

This organizational evolution was encouraged by the multinational Merlin company to stimulate a new path of cultural maturity, leading to management's opening towards new ways to manage the Park that are able to enhance its many relationships with territory.

As has already been stated this paper intends to show how Gardaland is extending its own geomarketing activity in order to support, in competitive terms, its own action plan in the intense business area constituted by Lake Garda.

It appears opportune, in this regard, to deal immediately with the subject, giving a few historical notes regarding creation of this Department.

The first geomarketing studies were initiated in Gardaland at the start of the nineteen nineties. This was done in a more or less spontaneous way with no forecast of an action plan structured on the basis of a cost estimate, subject to monitoring during implementation and suitably assessed by reporting of results.

In-depth research led to set-up of the Geomarketing Department on January 1<sup>st</sup>, 1998, thanks to the efforts of Dr. Aldo Maria Vigevani, managing director of Gardaland since 2008 but at that time Sales Manager and in charge of Marketing Management. He maintained that Gardaland needed to strengthen its communications capacity/strength with respect to its reference target. The commitment to implement geomarketing research, testing unusual, not to say innovative, application procedures, took its direction from this standpoint, considering the geographic area of the action, the reference market and the product to be promoted.

Therefore, the Geomarketing Department was initiated with the fundamental purpose of specializing in effective communication to the Lake Garda tourism basin and surrounding territories which housed a substantial flow of tourists, calculated at approximately 4 million persons per year (Osservatorio Turistico Gardesano, 2010).

Carrying out the activities of the Department for the Gardaland product promotion often involves direct collaboration with other company managements and departments such as, for example, the purchasing department, marketing and communication management, the sponsorship department with which it is often necessary to work together to achieve business targets.

In 2009 the Geomarketing Department was provided with a new department called Special Events and dedicated to management of activities connected to organizing an event or to participation in events promoted by third parties other than Gardaland.

As a result of implementing the activities of the geomarketing and special events department into Sales Management the Department was renamed "Trade and Geomarketing". It was also assigned another function, that of generating a "sounding board" for all the events set up by Sales Management. These include, inter alia, the subscription campaigns and promotional offers conceived in advance or in reply to specific contingent situations where the flow of visitors is or is forecast to be extremely erratic to the point of risking achieving the preset number of customers and turnover.

In this regard, for example, the Trade and Geomarketing Department manages all discount coupons used during the summer, distributing them for the most part in tourist markets, shops in

historical centers, shopping malls and during specific events such as, for example, the “Veneto sport championships” where a discount coupon was given to each of the 5,000 children who participated.

From the operational standpoint geomarketing is managed by two persons. The manager, Dr. Massimo Zuccotti, who interacted with the others when drawing up this paper, was involved in design of the initiatives of the new Department ever since it started, in agreement with the sales manager and in accordance with the targets shared with top management.

It now seems opportune, after analyzing the reasons behind setting up of the Trade and Geomarketing Department and after illustrating the operational links it has with the other company departments, to proceed to specifically examine this structure’s principal working tool, i.e. the geomarketing plan.

#### *4.3 The Gardaland geomarketing plan: goals, targets, structure*

In the absence of specific theoretical reference models that are able to cover the peculiarities of Gardaland the geomarketing plan was conceived inside the Department on the basis of priority communication requirements that the Park has with the territory where it does business, identifying specific response modes in tune with the inclinations of the human resources directly involved in conceiving and achieving the many initiatives that are put forward.

*The targets* of the geomarketing plan are nothing other than an operational translation of the goals that the Department proposes achieving with its own actions and which were described in the previous section.

In the specific case these are quantitative targets, meaning to increase the number of customers and consequently increase company turnover. In this regard note that awareness of Gardaland is already very high and it is not necessary to intervene with specific corporate strategies to boost this awareness.

Rather it must be supported by the communications style adopted by the company, strongly directed towards supporting and divulging the values that the Park itself interprets.

The geomarketing plan outlines the action strategy of the Park in the *geographic basin* represented by the 20 Lake Garda lakeshore municipalities and by the 25 municipalities in the immediate bordering hinterland.

The main reference contacts in this area are:

- city administrations (a total of 45),
- accommodation facilities (2004 including hotels, campgrounds, farm holidays, bed & breakfasts, residences),
- travel agencies (a total of 107),
- Tourist Information and Accommodations offices, IAT, (a total of 98) working in the territories of Verona, Brescia, Trento, Mantua.

There is also, alongside these subjects, strong collaboration with the Tourism Department of the Province of Verona. Often partnerships are set up with this agency. The accommodation guide with all the hotels and campgrounds on Lake Garda is one of the most important results of this synergic alliance, offering positive results in both economic and non-economic terms. If, for example, it was decided to create a geographic map of the accommodation facilities for the Lake Garda area – as Dr. Massimo Zuccotti states – then Gardaland, which would pay the printing costs in its capacity as partner to the undertaking, would also have to incur substantial distribution costs. These costs could be spared whenever the Park entered into an agreement with the IAT Offices to display these materials in their own offices. Hotelkeepers, who generally go to IAT offices on a daily or weekly basis to give them data on the persons staying in their structures, could easily and quickly pick up the informative maps. The advantages for the two promoting subjects are clearly evident: the Tourism Department of the Province of Verona adds to the quality of its own information services, making additional material available without printing costs. Gardaland, on the other hand, can

promote its own activities without the extra expense of distributing the material. Both reach their target markets where they increase their visibility and credibility and achieve mutual satisfaction.

The communication activities managed by the geomarketing plan aim at three *targets* of potential visitors to the Park:

- foreign tourists on the lake,
- Italian tourists on the lake,
- nearby citizens.

Foreign tourists who take their holidays each year on Lake Garda, amounting to approximately 2.4 million persons, generally become aware of the Park when they reach their destination, where they stay for an average of 4-5 days (Province of Verona, 2010). The goal of Gardaland is to draw their attention and interest during their holidays. No advertising investments are made in the main foreign Countries that are sources for the important tourist flow towards Lake Garda. As a matter of fact, this communication policy, is held to be excessively costly in terms of cost-contact.

Lake tourists from Italy, about 1.1 million persons, are on the other hand subject to a geomarketing strategy focused on a recall target since these tourists have already been informed regarding the Park's novelties by advertising campaigns carried by the most important Italian television and radio media.

Nearby citizens are held to be the residents of Verona, Mantua, Brescia, Trento, Bergamo and Vicenza. Here, too, the target is one of recall.

Specific approach techniques are determined for each target that is identified in compliance with preset targets.

From the *structural* standpoint the Gardaland geomarketing plan (and in particular the plan for the year 2011) is composed of six macro areas of activity:

- park events,
- external activities and events,
- pro-media events,
- shopping malls,
- activities on accommodation facilities,
- institutional activities.

For each macro area we have:

- targets to achieve,
- action procedures (type of initiative),
- specifications for each action (the organizational requirements and procedures to be carried out for each initiative),
- the time schedule for the various implementing phases,
- the costs of each initiative,
- reporting on each initiative that has been performed,
- overall reporting referred to the macro area.

The following paragraphs analyze each of the six macro areas in order to comprehend, in detail, the areas where the Geomarketing Department operates.

#### *Park events*

This includes events taking place inside the borders of Gardaland, organized by the company in collaboration with external partners. For example during the Park's winter opening periods the tallest ecological Christmas Tree in Europe was placed in Gardaland. Many sponsors wanted to participate "in the event", applying decorations that refer to their businesses onto the tree. This generated mutual benefits: on the one hand Gardaland was able to benefit from the word of mouth that the sponsoring companies communicated to their own customers and collaborators, suggesting

that they visit the tallest ecological Christmas Tree in Europe. On the other sponsors were able to enjoy the grand showcase, which is also directed to an international public, that is Gardaland. In addition this unique activity spontaneously generated, at no cost, media visibility for both partner subjects.

#### *External activities and events*

This concerns events taking place outside the Park area, on the public square or in other public and private bodies facilities. These events can be organized directly by Gardaland or by companies that participate in them, stipulating a partnership agreement with the organizer/promoter. Some examples in this regard are Gardaland's participation in events such as: the Coppa Italia Federfiori 2011 organized in Jesolo on June 3<sup>rd</sup>; the Junior World Snowboard championships in Valmalenco (Bergamo) which took place in March 2011; the Giochi della Gioventù, Veneto regional phase, held in Bardolino on May 20<sup>th</sup>-22<sup>nd</sup>, 2011.

#### *Pro-media events*

These are conceived ad hoc to attract the interest of local media ranging from the press to television. One example of this scope of activity regards launching Gardaland's new 2011 attraction. The Trade and Geomarketing Department designed and organized a totally unusual event which basically had no direct and immediate contact with the public but which had a great return on the public thanks to the efforts of the media. In this specific case Alex Bellini, a man of extreme undertakings, released his hot-air balloon in the air, transporting the logo for the new 2011 Gardaland attraction over the "Roof of the Alps", meaning over the top of Mont Blanc (from 4,800 on up to over 6,000 meters) and simultaneously revealing its name: "Raptor, the thrill of flight" (Corriere dello Sport, 2011; Il Giornale di Brescia, 2011).

#### *Shopping malls*

These are true media tools. Gardaland has entered into agreements with five of the most important shopping mall management companies located in Veneto, Lombardy and Emilia Romagna. Thanks to this it can use advertising spaces in 130 shopping malls, the smallest of which has an annual user base of 1-2 million persons whereas the larger structures handle up to 8-9 million persons per year.

#### *Activities on accommodation facilities*

These are carried out at hotels, campgrounds and bed & breakfasts.

At the start of the season (from January to April) Gardaland prefers direct contact with the various trade associations such as the association of hotelkeepers of Peschiera, Lazise, etc., giving them information on offers and the related promotional terms processed at the macro-category level.

With the start of the summer season, when the main tourist accommodation facilities open, the Gardaland sales force acts to meet with each accommodation and restaurant facility working in the relevant territory for the purpose of proposing customized promotional offers for purchasing a package of Park entry tickets (Operation Starter Kit).

For each facility the minimum purchase package is 20 tickets to be sold to its clientele. Each facility is paid fees/commissions on sales for this service.

#### *Institutional activities*

These regard initiatives promoted in collaboration with institutions such as the Tourism Department of the Province of Verona, Navigarda, the Vittoriale degli Italiani, the Malcesine-Monte Baldo Aerial cableway. One example is preparation of the booklet "The ten golden rules for navigating Lake Garda" to which Gardaland contributed both in terms of graphics, using its amiable image of Prezzemolo, the Park mascot, and economically, contributing to printing costs.

It would seem to be opportune, in order to proceed with in-depth analysis of the geomarketing plan, after having investigated its goals, reference targets and structure, to examine how Gardaland communicates with its own reference targets: what it means for the Trade and Geomarketing Department to georeference an event.

#### *4.4 What does it mean to georeference an event*

Georeference an event means, for Gardaland Park, to find, on the territory involved, all the events that the various public and private institutions active in the area intend to propose and assess what other events and initiatives can be promoted and organized by the company in the sites held to be most interesting.

The Park, by means of these analyses, outlines a schedule of activities and events to carry out in its reference basin in order to promote, at the specified target, its own product and the novelties in attractions and shows forecast for the ongoing season.

The Park can be engaged directly in the event conception and/or management in collaboration with or in partnership with other territory stakeholders.

Many different types of event can be georeferenced: parades, appetizers with the mascot Prezzemolo, animated evening events, musical events in town squares, disco parties, cultural festivals. They are aimed at a specific public of potential clients to be reached in a specific square and/or structure of the area where the Park wants to become more attractive.

The events that are selected are scheduled at intervals during the entire opening period for the Park, with a variable weekly and monthly frequency depending on recorded performance, calculated in terms of numbers of visitors, turnover and by user profile. Monitoring this data gives information that is helpful for assessing, at least in approximate terms, the efficiency of the initiatives promoted and, specifically, the degree to which each is incisive. Not to be overlooked, in this last regard, is the signage value represented by the local and national media impact generated by the initiatives that are promoted.

But event activities also need to take place in the period prior to opening the Park, to locally support the institutional communication strategy over the entire national territory, especially regarding launching the novelties introduced among the attractions and shows offered by Gardaland.

Each event represents an important opportunity for Gardaland to contact the public, to which the company wants to communicate its desire to “be present in the community” in as continuous a manner as possible and wants to welcome all those who are looking for a unique experience of healthy fun or who are simply curious to discover a quality proposal, enriching the social context where the reality of the Park is situated.

Events also represent a precious opportunity to strengthen relations and confidence with potential customers and with the different territory stakeholders with which the Park synergically collaborates.

Conception and subsequent organization of innovative scenes, with unique and exceptional characteristics, to help promote the Gardaland product and launch new attractions, is able to catch the attention of local and national media, offering further support to the already high-level visibility of the brand and above all offering substantial support to the sales targets that the Park sets for itself year after year.

Consider, in this regard, that all the events organized between the end of July 2010 up to the end of June 2011 generated more than 700 mentions (an average of two a day) on local and national media including the press, television, radio and the web. This is not advertising or promotional space purchased by the company but is space directly recognized by the media, attracted by their interest for the events that were conceived and created. During this period Gardaland carried out so-called “teasing” activities related to the Raptor attraction, the novelty of the 2011 season: it performed promotional activities aimed at speaking about, and having others speak about the

product without revealing to the customer what it really consisted of, while awaiting definitive launching of the Raptor brand.

First a striking story regarding the attraction was put on scene in a localized area of the Gardaland Park, forecasting the presence of a team of scientists attracted by discovery of a strange creature to analyze. In the meanwhile construction and revision works for the new attraction continued. The billboards positioned in the area carried strange warnings, incomprehensible for transient visitors but able to stimulate their curiosity regarding what was taking place.

This action progressively stimulated the public's curiosity about the product, up to the incredible challenge, already mentioned, confronted by Alex Bellini in a hot air balloon over Mont Blanc, when the logo of the new Gardaland ride was officially revealed. An exceptional event that generated all of 70 media mentions out of the 700 main mentions collected during the year, witnessing the extraordinary effect that this operation had.

The company is gradually directing its own geomarketing policy towards innovative communications approaches that break with traditional schemes. It is a path nourished by enthusiasm and by a love of experimentation. In particular enthusiasm is an important element to organize an event because it allows you to bear in a better way efforts and to carry energies and ideas to the shared aim (Sainaghi and De Carlo, 2003).

## **5. Critical factors and complexity of geomarketing activities**

Critical factors connected to Gardaland geomarketing regard problems related to:

- time management,
- management of unforeseen promotional opportunities,
- georeferencing of human resources,
- interaction with a multitude of stakeholders (the Public Administration in particular).

Time management is a key leverage for the effectiveness of geomarketing policy. The Amusement Park Gardaland steps up its activities above all during the summer months, concentrated in the months from June to September, when various "corrective maneuvers" often become necessary, in addition to already-scheduled initiatives, in order to reach the Park's incoming flow targets (in terms of volume and turnover) as preset by the company.

Intervention on visit trends recorded by the company in terms of time slots, days, weeks and months is done by conceiving and implementing, in generally short time periods and within the limits of the flexibility of the annual budget allocated to the geomarketing plan and to each area where it is structured, specific temporary promotions and specific communication projects which aim at stimulating the attention and the curiosity of the reference target.

Geomarketing therefore requires an ongoing design and operating effort (even in collaboration with other company functions), backed up by management coordination that can optimize action times and reduce down times to a minimum. In particular when performance of an initiative entails involving external subjects, for example city or provincial administrations for permits to use public areas for carrying out an event (or for parking for advertising purposes of Gardaland "Hammer H2") activity management times risk greatly increasing regarding carrying out the necessary red tape. Or other critical circumstances may consist of the opportunity of accepting, for promotional purposes, short or extremely short term invitations (even in 1-2 days) for collaborations and partnerships in specific initiatives promoted by various territorial subjects (for example schools, non-profit organizations, etc.) that interact with the Park's reference target<sup>2</sup>.

---

<sup>2</sup> Dr. Zuccotti gives the example of the awards day promoted by LILT (Italian Anti-Cancer League) at the congress center of the Banco Popolare for the schools of the Province of Verona. The intent of the event was also to present, in the interval, an entertainment show that Gardaland accepted to organize in a very short time period and without any added expense for LILT and for the schools involved in the initiative. In exchange it was able to set up its own promotional space during which it communicated, to participating students, the opening times for the Park and the

Generally it has been seen that Gardaland reaction times tend to be fast compared to the average times encountered for activities promoted by territorial bodies.

Remember that the geomarketing plan cannot be set up with certain programming at the start of the year because the majority of the public administrations that the Park interacts with (in the area of external events and institutional events) are unable to communicate what initiatives they intend to carry out during the year, and in particular during the summer, until quite near to the actual time of the event.

These times and prior knowledge of the activity programs assumed by public bodies can be mediated in connection with the type of relationship activated by the geomarketing structure (and by other structures in the Park) with external and institutional partners and others involved in the activity to be carried out. It is fundamental to engage human resources that are very familiar with the local community (habits, customs, traditions) and that are inserted in the context not only for their job but who have also, over time, created personal relationships with the various territorial subjects, for example as part of activities of social/community interest. Willingness to responsibly carry out one's own assignment, in a flexible way in terms of time and place, is very important: an event may be organized for a weekend or for an evening in one of the many squares and structures of the basin of action. Likewise a contact can be initiated and maintained outside classic working hours and/or outside the main place of work and so forth.

The Amusement Park Gardaland has a system of relationships with its territory that has gradually been strengthened over the years, helping it reduce the complexity of managing its business. This required a substantial investment in terms of time, continuity of effort, constant searching for mutual benefits, confidence and with the ultimate end of contributing to community well-being.

This system, as has been underlined, is tied to the persons who represent it and to the nature of their relationships, interwoven with their personal lives and different experiences and understanding achieved over time in the communities they relate with and belong to.

The Amusement Park Gardaland has the need to feel itself as an integral part of the context where it does business. Its competitive growth strategies require, starting from the conception phase, concrete synergy between the main reference stakeholders (Sciarelli, 2007). The Park, while it interacts with the multitude of stakeholders in the territory, is aware that it holds a key role and expresses this both by searching for and by constantly and creatively responding to the requests to involve all those who perceive the feasibility of profitable synergy and its importance from the standpoint of sustainable growth of the Lake Garda area.

## **6. Concluding Remarks**

This analysis carried out on the approach, goals and critical actions taken by the Gardaland Park as part of its own geomarketing activities raises, in this closing part of the treatise, some thoughts regarding the following two aspects:

- the importance of the Gardaland brand and
- the effectiveness of the operation model proposed by the Trade and Geomarketing Department.

Geomarketing activities carried out on the territory of Lake Garda, as part of Gardaland's communication strategy, offer key back-up to the company's ability to give shape to its own competitive edge. Such a positive impact during consolidation phases, as witnessed by the ongoing and concrete results that have been achieved, was able to take advantage of the driving force of the

---

favorable access conditions regarding the cost of the entry ticket. Organization was entrusted to the Trade and Geomarketing Department which intervened by setting up the show and entertaining the students even for a longer time period than had been forecast due to the unexpected absence of a guest who was to participate in the event.

This example shows a business approach that aims at offering added value through its own participation and its own resource, sometimes solving situations that are even relatively complex.



company brand where Gardaland has invested heavily ever since its first beginnings and not merely through large-scale advertising campaigns. Efforts were above all aimed at developing its own product, renewing it, improving the quality of its services, constantly aiming at customer satisfaction, studying the market to understand and anticipate demands and trends, monitoring the competition and its performances, generating relationships of collaboration with many stakeholders, clearly outlining its own strategy.

Today the company proposes itself with a brand that is well-known territorially at local and national levels. The Gardaland brand makes the company product, promoted with the communication tools and procedures held to be most suitable, immediately recognizable. In fact the first element of recognition of the Park reality from the outside is an identification tool but which also embodies a set of values that transmit, to the customer and to the Park partners, perception of a product of quality, credibility and reliability (Aaker, 1996, 2002; Kapferer, 1997; Keller *et al.*, 2005).

The Gardaland brand enjoys the holistic trust of its customers and influences their choices, increasing the company's contracting power in its relationships with suppliers and supports it as it copes with price competition from other alternative forms of amusement.

We can observe, regarding the effectiveness of the action model proposed by the Trade and Geomarketing Department, that it does not appear easily reproducible in other situations unless the other situations do not constitute the Gardaland's principal operating conditions, including relationships with the territory but also its particular attractiveness, that is for example connected with its natural and artificial attractions, its accessibility and affordability, its tourist information offices, its tourist accommodation facilities, its image (Franch, 2010). It is held, in fact, that it would be fundamental for a current (such as Mirabilandia) or potential competitor to collaborate with local public and private institutions even in design terms in order to implement a series of initiatives that *in primis* aim at developing its own reference territory.

It is also difficult, from this perspective, to be able to count on Gardaland's international tourism which is attracted primarily by the landscape, cultural, sporting and wine and dining attractions offered by Lake Garda.

But every amusement reality may single out and take advantage of the interest from its own specific target. It is likely, for example, that Mirabilandia preferentially attracts, in addition to nearby citizens, Italian and foreign tourists spending their holidays on the beaches of Ravenna and in marine areas as well as the bordering hinterland.

We cannot exclude the possibility, in addition, that similar parks or structures in this sector, today smaller than Gardaland, may undertake an equally important growth cycle and approach the success enjoyed by the Lake Garda Park by efficiently working with the tools used by Gardaland, including targeted actions on the georeferenced territory and with more incisive integrated tourism promotion policies.

The strength of Gardaland comes not only from its internal business matrix but is also closely linked to a territory that believed in the potential of the Park as a precious hub of attraction and that favored its conditions for growth<sup>3</sup> to the point where today it is a partner that cannot be overlooked when defining future competitiveness strategies for the Lake Garda destination. The Park itself is actively present, open to dialogue and collaboration in the mutual interests of all parties, aware that it generates added value thanks, in part, to jointly held synergies with all the other territory stakeholders in the context where it does business<sup>4</sup>.

---

<sup>3</sup> The Lake Garda Park is in a strategic position that permits visitors to reach it in short time periods using all available means of transportation (automobile, train, airplane, shuttle bus service to and from the Peschiera del Garda railroad station, ParchiBus service to and from Verona) and at the same time to be able to visit the most striking sites of two Italian regions that border the lake, Veneto and Lombardy.

<sup>4</sup> In 2008 Gardaland invested one million Euro to build an important intersection for traffic in the Lower Lake Garda Area, a project promoted by the Province of Verona, Veneto Strade and the City of Castelnuovo where part of the park is located. This collaboration is the result of positive relations with local administrations. At that time the outgoing Managing Director, Sergio Feder, stated that: "the Park has always been aware of the commitment

It is, however, difficult to express conclusions regarding the effectiveness of Gardaland geomarketing compared to other fragmented conceptual references that cannot be specifically approached to the theme of communication and to the reality of Amusement Parks.

## 7. Perspectives for future research

Future research in the field of geomarketing analysis can go in many directions.

The company case examined in this paper aimed at outlining opportunities for applying geomarketing to strategic business decisions regarding communication. It would be important to enlarge this research collecting more testimonials to know if other Italian and international amusement parks use this tool and with what goals and application potentials. In this regard it would be desirable to use the multiple case study method (Stake, 2006).

Possible investigation themes could include, for example, propagation of the use of geomarketing in the communication sector between the various parks, creation of a geomarketing plan that can be generalized for the amusement park sector, the degree of success consequent on implementing this tool in the company.

Another future direction for research consists in the possibility of specifying the determinant factors at the base of geomarketing and possible further action approaches in order to construct a clear and precise geomarketing model, given the lack of theoretical references in this regard. This would be an inductive approach starting from observation and analysis of empirical facts and data, not necessarily quantitative, to then work out further theoretical constructions and reflect on new themes most of which still little investigated in management literature.

## References

- Aaker D.A. (1996), "Measuring brand equity across products and markets", *California Management Review*, n. 3: 102-120.
- Aaker D.A. (2002), *Brand equity. La gestione del valore della marca*, Franco Angeli, Milano, (original title *Managing brand equity. Capitalizing on the value of a brand name* (1991), The Free Press, New York).
- Aiello G., Donvito R. (2006), "The role of integrated communication within place marketing: the province of Florence case", 22<sup>nd</sup> IMP - *Industrial Marketing and Purchasing Group Conference*, 7-9 September 2006, Università Bocconi, Milano.
- Arbia G. (1993), "The use of GIS in spatial statistical surveys", *International Statistical Review*, vol. 61, n. 2: 339-359.
- Baccarani C. (2005), *Imprese commerciali e sistema distributivo. Una visione economico-manageriale*, Giappichelli, Torino.

---

imposed by its territory and local administrations have been aware of the well-being that this activity has brought, by repercussion, to the entire Lower Garda area". See Bolognesi, 2008, also available online at the website <http://www.larena.it>.

The "ParchiBus" service is an interesting recently implemented initiative (2010) promoted by the Sport and Tourism Department of the Province of Verona together with the Verona Transportation Agency and the principal amusement and nature parks on Lake Garda. The goal of the project is to improve environmental quality by limiting traffic and pollution, and is dedicated to everyone who intends to spend a day of amusement or of immersion in verdant nature at the Parco Natura Viva, Movieland Park, Gardaland Resort, Parco Giardino Sigurtà or the Parco Acquatico Cavour.

The motor coach service starts from Verona and takes place every weekend during the summer season (the months from June to September) and every day during August. It is important to point out that the service is free for users because the ticket price (equal to 3 Euro round trip) is deducted from the purchase price for the entry ticket to the first park that is visited. See <http://www.atv.verona.it>.

- Birkin M., Clarke G., Clarke M., Wilson A. (1996), *Intelligent GIS location decisions and strategic planning*, Geoinformation International, Cambridge.
- Bolognesi G. (2008), “Sergio Feder: «Lascio la guida di Gardaland»”, *L’Arena*, January 22<sup>nd</sup>.
- Campo K., Gijsbrechts E., Goossens T., Verhetsel A. (2000), “The impact of location factors on the attractiveness and optimal space shares of product categories”, *International Journal of Research in Marketing*, Vol. 17 Issue 4: 255-279.
- Cardinali S. (2010), *Geomarketing e nuove metriche per un differente approccio alla competizione. Prospettive di ricerca e strumenti di gestione*, Esculapio, Bologna.
- Cliquet G. (2002), *Le géomarketing: méthodes and stratégies du marketing spatial*, Hermès Science - Lavoisier, Paris.
- Cliquet G. (2006), *Geomarketing: methods and strategies in spatial marketing*, ISTE, London.
- Corriere dello Sport (2011), “Bellini tra cielo e inferno”, January 20<sup>th</sup>.
- De Luca A. (2009), “Il geomarketing per la pianificazione territoriale”, *PMI*, n. 4: 30-34.
- Denègre J., Salgé F. (1996), *Les systèmes d’information géographique, Coll. Que-sais-je?*, n. 3122, PUF, Paris.
- Douard J.P. (2002), *Le géomarketing: outils et applications*, Eska, Paris.
- Douard J.P., Heitz M. (2004), *Le géomarketing: au service de la démarche marketing*, Dunod, Paris.
- Durance J., Moutet G. (1997), “Il sistema di geomarketing al Credit Lyonnais”, *Lettera marketing ABI*, n. 5/6: 16-19.
- Espa G., Arbia G. (1995), “Verso un approccio statistico al geomarketing: alcune linee guida ed un caso di studio”, *Quaderni di Statistica e Matematica*, vol. XVII, n. 1: 55-81.
- Eymann A. (1995), *Consumers’ spatial choice behavior*, Physica-verlag, Berlin.
- Franch M. (2010), *Marketing delle destinazioni turistiche. Metodi, approcci e strumenti*, McGraw-Hill, Milano.
- Galante J., Preda M. (2008), *Introduzione al geomarketing*, Università Cattolica del Sacro Cuore, Milano.
- Gibin M. (2004), “Il geomarketing. Geografia economica e GIS a supporto delle decisioni strategiche”, *Bollettino della società geografica italiana*, serie XII, vol. IX: 633-650.
- Golledge R.G., Stimson R.J. (1997), *Spatial behavior: a geographic perspective*, The Guilford Press, NY.
- Goodchild M.F., Anselin L., Deichmann U. (1993), A framework for the areal interposition of socioeconomic data, *Environment and Planning A*, n. 25: 383-397.
- Grether E.T. (1983), “Regional-Spatial Analysis in Marketing”, *Journal of Marketing*, vol. 47, n. 3: 36-43.
- Hess R.L., Rubin R.S., West Jr. L.A. (2004), “Geographic information system as a marketing information system technology”, *Decision Support Systems*, vol. 38, n. 2: 197-212.
- Il Giornale di Brescia (2011), “Bellini “porta” Gardaland sul Bianco”, January 19<sup>th</sup>.
- Keller K.L., Busacca B., Ostillio C.M. (2005), *La gestione del brand. Strategie e sviluppo*, Egea, Milano.
- Kepferer J.N. (1997), *Strategic Brand Management*, London, Kogan Page.
- Kotler P., Haider D.H., Rein I. (1993), *Marketing places: attracting investment, industry, and tourism to cities, states, and nations*, The Free Press, New York.
- Latour P., Le Floc’h J. (2001), *Géomarketing: principes, méthodes et applications*, Editions d’Organisation, Paris.
- Mardia K.V. (ed.) (1993), *Statistics and images 1*, Advances in Applied Statistics, Carfax, Abingdon.
- Mardia K.V., Kanji G.K. (eds.) (1994), *Statistics and images 2*, Advances in Applied Statistics, Carfax, Abingdon.

- Marzloff B., Bellanger F. (1996), *Les nouveaux territoires du marketing. Enquête sur les réponses des médias au géomarketing et au marketing relationnel*, Les Editions Liaisons, Rueil-Malmaison (Hauts-de-Seine).
- Mauri C. (2000), “Geomarketing: principi e applicazioni al processo di marketing”, *Micro & Macro Marketing*, n. 2: 211-226.
- Mauri C. (2001), “Applicazioni di geomarketing. Proposta di un metodo per selezionare il mix di negozi in un centro commerciale”, *Micro & Macro Marketing*, n. 3: 585-600.
- Mauri C. (2007), *Il sistema informativo per il marketing. Dai dati alle risorse di conoscenza per la gestione delle relazioni con i clienti*, Giappichelli, Torino.
- Pilotti L., Sedita S.R. (2002), “Competizione spaziale e fattori di localizzazione delle reti di vendita dinamiche: un’applicazione strategica di geomarketing”, *Industria & Distribuzione*, n. 3: 15-28.
- Pozzana R. (1998), “Informazione ed informatica al servizio del geomarketing”, *Quaderni Consiel*, n. 2: 15-19.
- Sainaghi R., De Carlo M. (2003), “Destination management e grandi eventi sportivi”, *Economia & Management*, 6: 14-25.
- Sbrana R., Gandolfo A. (2007), *Contemporary retailing. Il governo dell’impresa commerciale moderna*, Giappichelli, Torino.
- Sciarelli S. (2007), *Il management dei sistemi turistici locali. Strategie e strumenti per la governance*, Giappichelli, Torino.
- Scravaglieri S. (2009), “Geomarketing e strategia di posizionamento: il caso della Città dello Sport di Tor Vergata”, in AA.VV., *Evoluzioni tecniche e organizzative nel settore dei servizi. Casi aziendali*, Giappichelli, Torino.
- Stake R.E. (2006), *Multiple Case Study Analysis*, The Guilford Press, New York.
- Verhetsel A. (2005), “Effects of neighbourhood characteristics on store performance supermarkets versus hypermarkets”, *Journal of Retailing & Consumer Services*, Vol. 12 Issue 2: 141-150.
- Volle P. (2006), “Products and geographic information: geo-merchandizing”, in Cliquet G., *Geomarketing: methods and strategies in spatial marketing*, ISTE, London.
- Votino A. (2008), “La geofidelizzazione: nuovo impulso al micro marketing”, in Ziliani C., *Loyalty Marketing*, Egea, Milano.
- VV.AA. (2002), *MK*, n. 1: 1-25.
- Vyt D. (2008), “Retail network performance evaluation: a DEA approach considering retailers’ geomarketing”, *International Review of Retail, Distribution & Consumer Research*, Vol. 18 Issue 2: 235-253.

## Web sites

<http://www.atv.verona.it>

<http://www.gardaland.it>

<http://www.gardalandhotel.it>

<http://www.larena.it>

# **Staying excellent: Managing challenges to excellence**

**Professor Alan Brown  
Edith Cowan University  
Perth, Western Australia**

**alan.brown@ecu.edu.au**

## **Abstract**

The business excellence models such as the Baldrige, EFQM, Australian Business Excellence Framework and many other national and regional models are used by organisations around the world as a strategic driver for business improvement. Whilst many award recipients showcase their achievements, comparatively little is known about the challenges they face in sustaining high levels of success as evidenced by winning awards. Using a sample of Australian Business Excellence Award winners this paper identifies challenges and examines various approaches to managing them.

Findings suggest challenges are mostly in the strategy, leadership and people areas of the excellence framework. Challenges experienced by most organisations include embedding excellence, making it meaningful to all, consistency and engagement. Organisations deal with these in various ways with a critical central role of leaders at all organisational levels.

**Keywords:** Business excellence, sustaining quality, challenges, Australia

Keynote paper 14<sup>th</sup> Toulon-Verona Conference, Alicante, Spain, September 2011

## **Introduction**

Business excellence frameworks such as the EFQM Excellence Model 2010, Malcolm Baldrige Award and Australian Business Excellence Framework (ABEF) are used by organisations throughout the world as holistic models to guide their strategy, business processes and business improvement. They provide a disciplined approach to business conduct around seven key areas and within each of these, the application of a framework of approach, deployment, results and improvement. Achieving success and sustainability is also part of these frameworks along with guidance on what an organisation could be focusing on as part of their strategy to build excellence. Quality management principles underpin the frameworks.

Whilst there has been a general move away from using the term quality and related acronyms such as TQM, it might be argued that the principles are still fundamental to the more widely used concepts of excellence and six sigma. Dale et al (2000) have in fact criticised the EFQM for gradually moving away from quality to excellence in the European framework, arguing that it has been the wrong move and has been motivated more by political reasons than anything else.

Whilst the primary aim of adopting an excellence framework is to provide guidance for building organisational performance as measured by various success indicators, it is also a process which can involve benchmarking and internal self-assessment around the core elements of the framework. Organisations using the framework face many challenges and impediments and it is these which are the focus of this paper.

## **Literature**

A number of studies have examined factors which are important in quality management success and failure and sustaining quality (Seraph, Benson and Schroeder, 1989, Van der Wiele and Brown, 2002, Venkateswarlu and Nilikant, 2005 and, Sebastianelli and Tamimi, 2003, Zairi, 2002, Tamimi, 1998, Naor et al 2008, Asif et al, 2008, Taylor and Wright, 2003, Sohal and Terziovski, 2000, Black and Porter, 1996). This research points to the importance of leadership commitment, training, engagement, management systems, human infrastructure and customer focus in ensuring organisations experience success with quality. Many studies tend to focus on issues during the implementation phase of excellence and quality.

Van der Wiele and Brown (2002) examined the experience of five large Australian organisations over a decade following their introduction of quality initiatives in the nineties. The following factors were important in influencing sustainability of quality initiatives:

- Top management
- The driving force
- Human infrastructure
- Management system to drive and monitor
- Audits and assessments
- Quality frameworks eg ABEF
- Mapping customer satisfaction
- Information technology to bind systems and provide information

Similarly, Venkateswarlu and Nilakant (2005) studied five New Zealand companies and identified factors which influenced the adoption and continuity of TQM programmes. These were:

- Compulsions for change (reasons for introducing TQM)
- Core philosophy (archetype consistent with TQM)
- Commitment of senior management (eg walk the talk, don't delegate)
- Capability, experience and fit of TQM champion
- Collateral changes (eg organ structure, HRM)
- Continuity of leadership

Institutionalisation and infrastructure are important factors in sustaining quality according to Naor et al (2008) and Asif et al (2008). Naor et al (2008) differentiate infrastructure and core quality practices where infrastructure includes behavioural, leadership and cultural aspects of quality. The theory is that those organisations which place attention on the infrastructure and soft elements are more likely to have sustained benefits. Asif et al (2008) focus on the institutionalisation of quality in order that it is embedded as an integral part of the organisation. Drawing on the strategic and operational management literature they suggest institutionalisation can be achieved through leadership creating a strategic fit, a culture, routines and a user oriented design.

Research on critical success factors for quality (Sebastianelli and Tamimi, 2003, Taylor and Wright, 2003, Sohal and Terziovski, 2000) offers a range of factors which are integral to success which mainly focus on factors which are important at an implementation stage. Whilst there have been some differences in emphases in outcomes between the studies, they typically show the following as CSF's; top leadership commitment, training and education, HRM, process management, quality data reporting, communication and customer satisfaction orientation.

Sebastianelli and Tamimi (2003) identified five obstacles to TQM in a survey of US quality managers. They were; lack of planning for quality, lack of leadership for quality, inadequate HR development, inadequate resources and lack of a customer focus. Taylor and Wright (2003) conducted a longitudinal study of the success with TQM in a sample of predominantly small firms and found key success factors to be:

- Managers understanding the purpose of TQM
- Understanding of the relationship between TQM and ISO 9000
- Including quality objectives in the planning process
- Senior managers taking charge of TQM and ensuring that a majority of employees are involved in its implementation.

Sohal and Terziovski (2000) identified the following success factors for TQM:

- Positive attitude towards quality
- Leadership education and training
- Integrating the voice of the customer and supplier
- Developing appropriate performance indicators and rewards

This literature points to several issues likely to present challenges and impediments to organisations pursuing excellence. These include; the role of drivers and leadership, supportive infrastructure, leadership and education and monitoring and measuring customer satisfaction. The presence and significance of these as impediments and

challenges and how they are managed so as not to derail the drive for excellence is the focus of this research.

## **Methodology**

This study focused on the following two research questions which were essentially exploratory in nature.

- What are the challenges and impediments faced in sustaining business excellence?
- How are these challenges managed?

A sample of organisations, namely recipients of Australian Business Excellence Awards (bronze through to gold), were approached to participate in this study. Whilst this is a select and somewhat exclusive sample, it does represent organisations who have been using the excellence framework for a long period of time and have reached a high level of competence in this and therefore be in a position to provide insights into challenges from a maturity phase rather than simply those which might be encountered at a start up phase. A further reason for the selection of this sample was that the present study focus was on what challenges were encountered and how they were dealt with by successful organisations rather than those who had experienced failures or the demise of excellence and quality initiatives. The focus was on processes of leading and managing business excellence rather than outcomes per se.

In total, 8 organisations participated in the study and are representative of different industries from both the private and public sector and most had been using the ABEF since 2000. All were medium to large in terms of employee numbers. The sample comprised organisations from the following industry sectors:

Financial services

Construction

Manufacturing and services

Transport

Health (Aged care)

Local government

Pharmaceuticals

Public sector

Interviews were held with members of the senior leadership team of these organisations who currently had primary responsibility for driving and coordinating the excellence focus and in some cases, people who were previously responsible for business excellence in the respective organisations. These included CEO's, quality and business improvement managers. Interviewees were asked several questions concerning challenges and issues which they had encountered in the pursuit of excellence and how they had dealt with these. These were essentially exploratory and based around the ABEF categories. Additional background information was obtained from published material which was either publicly available or provided to the researcher. The researcher also participated in a study tour of most of the participating organisations where there were opportunities to hear from senior leaders and question them.



## Findings

The challenges faced by organisations were grouped into several themes which are shown in Table 1

Table 1: Challenges in managing excellence

Embedding	Challenge 1 - How is excellence integrated into the way the business operates so that it is a normal part of everyday business? Many organisations struggle to build continuous improvement, benchmarking, and the use of quality improvement processes into their mainstream activities.
Making it meaningful	Challenge 2 – How can the excellence principles and processes have meaning for all throughout the organisation? How does it affect me? How do I contribute? Unless both managers and employees can see how they have a role and what it is to participate in excellence then it is difficult for them to be involved.
Driving	Challenge 3 - How is the effort and momentum maintained? Is it dependent on only the CEO or other leaders in the organisation?
Engagement	Challenge 4 - Who drives and how is engagement driven? How can the maximum number of organisational participants (managers and employees) be engaged?
Not being onerous	Challenge 5 – How can the principles and processes of excellence be driven in a way that it does not create extra work, rather be an integral part of work? How can it help rather than hinder people?
Consistency	Challenge 6 – How do managers ensure the message is consistent throughout the entire organisation especially where there are multi-locations?

### How are these challenges managed?

- Embedding – How is excellence integrated into the way the business operates?
  - Communication of strategy
  - Linking strategy with KRI's/KPI's
  - Consistent use of process improvement, continuous improvement, ADRI, self assessment and sometimes external assessment
  - Link to performance management systems
  - Leadership visibility and communication throughout the organisation

Most organisations in this study strive to ensure that business excellence is an integral part of the way the organisation runs its business so that underpins all operations. Having regular communication between managers and employees is an important mechanism for reinforcing the excellence culture. Breakfasts and toolbox meetings where ideas, initiatives and feedback on the organisation is provided reinforces the principles of excellence. These meetings may provide feedback on strategic goals, process improvement activities and recognition of individuals and teams for ongoing improvements. Having process improvement as ongoing activities along with self-

assessment provides discipline to excellence and requires actions and outcomes and not merely words.

Having an open culture in the organisation is important to ensure that people at all levels are able to have an input to a variety of issues and have a say on any matters. In one organisation, the open plan head office with an open door policy of the CEO facilitates this, in another, so called skip meetings, whereby people are able to discuss issues with the next managerial level beyond their immediate boss is considered a means of allowing this. Others involve a cross section of people in the strategic planning process. Most have scope for people involvement in process or continuous improvement teams.

- Meaningfulness – How does it affect me? How do I contribute?
  - Strategy communication – how to ensure it is a daily activity. Build into work plans.
  - People – use performance management systems to build into everyone's roles
  - Strategy – balancing with operations. Ensuring strategy is clearly linked to operations
  - Processes – ensuring a big picture approach
  - Processes – involving people in process improvement

Ensuring all managers and employees adopt excellence principles is an ongoing challenge so building strategy into operational and daily work plans is an important part of trying to ensure that individuals can identify where their work roles contribute to the achievement of strategic goals. Simplification of strategic goals to plans on a page and daily work plans helps to remove some of the mystique usually associated with strategic plans. This is reinforced through performance management processes whereby individuals identify how they personally contribute to the organisational strategy. Strategy is also transmitted into operational activities so people are able to see the linkage between the two and this is an important task of middle and front line managers.

Involving people in process improvement teams is another way of ensuring excellence has meaning. All organisations use teams for process and continuous improvement and these may be process focused or at individual work unit levels. Direct involvement allows people to see how they can contribute to improvements in the organisation and actually impact on their personal work roles.

The need to provide the link between strategy and operations is paramount in communication and engagement. People, particularly at operational levels, need to see meaning for them in the strategy. An important task of leaders at functional and front line levels of the organisation is to convey meaning. Plans on a page (POP) are one technique used to facilitate communication and ensure that normally lengthy and complex strategic documents are not overwhelming. Other strategies include; management by walking about and discussing strategic matters with people and ensuring that the strategy is a working document and is the basis for operational matters.

- Driver – How is the effort and momentum maintained?
  - Leadership at senior level – single person or team
  - Leadership MBWA
  - Leadership – building support from middle managers
  - Leadership – champions to support and provide impetus to the drive. Not necessarily the CEO or most senior leader.
  - “What the CEO wants is what I want”
  - Processes – cross functional teams
  - Discipline through internal auditors, benchmarking

Driving continuous improvement is cited in most studies as a critical success factor. The most senior manager is generally of critical importance as this sends a very clear signal of what is important in the organisation and in many of the organisations studied here, a high degree of passion and drive has been provided by the CEO and this has been a key factor in making a difference. However, there have been a couple of examples where the CEO has left and their successors may or may not have shown the same degree of drive and enthusiasm. In these cases, excellence has been embedded to a significant degree and therefore the continuity is maintained. A further key element is to ensure that the senior leadership team are united in their drive of excellence so that should one person leave, the team will still provide momentum.

The need to have leaders throughout the organisation being passionate about excellence and driving it was a challenge which most organisations had to deal with. Ensuring that leadership appointments were made on the basis of leadership skills and abilities and fit with the organisational culture including the business excellence approach rather than simply functional and specialist skills is something which one organisation has recognised and was addressing this with role profiling.

Building and maintaining support from middle managers was regarded as a relatively common challenge. It was suggested that patience was required to build middle level management commitment to excellence and that this typically took up to five years. It is important for the most senior managers to help establish long term commitment by reinforcing unwavering commitment and signal that it won't be a passing fashion.

A view expressed in one organisation was that whilst a supportive and passionate leader is central to driving business excellence, there still needs to be a routine of self assessment in order that people are accountable and actions take place rather than remain simply words.

The need for drive throughout large organisations, and particularly where they have multiple locations is critical. Many organisations identified some degree of frustration with a lack of consistency in drive across the organisation. Sometimes the “out of sight, out of mind” principle applies where locations away from the corporate headquarters and senior managers may be less enthusiastic about excellence. Even in single site locations, there is a constant need to ensure managers throughout the organisation are drivers. One way of handling this challenge is to ensure that senior leaders and the leadership team are visible throughout the organisation through regular visits or other strategies.

Often there are strong driving forces behind the initial reasons to embrace a business excellence approach and these may diminish over time and so maintaining the drive and enthusiasm can provide a challenge. Even the achievement of an award may be seen as an end in itself and then people in the organisation may go back to being complacent. Regular internal self-assessment is an important means of maintaining drive and discipline.

- Engagement – How is engagement driven and who is responsible for this?
  - Strategy development, involvement in the process
  - Strategy engagement, in implementation
  - Strategy communication
  - Customers – understanding their needs
  - People – open cultures, free communication, participation
  - Leadership (at all levels) communicating with employees

Whilst some in the organisation may be highly engaged and enthused about business excellence, ensuring that engagement is widespread is a bigger challenge. As with most organisational change, a small proportion of people might be labelled pioneers and lead the process. However, there are always a large portion of the organisation who are fence sitters and stragglers adopting a wait and see attitude. Cultural change can be driven by words and strategies but these need to be converted into ways of getting people voluntarily committed and engaged in the processes and behaviours which are part of this change. Involving people in the processes are important in dealing with this challenge and this can take various forms including developing strategic plans and process and continuous improvement teams. Communication is also an important process for developing engagement and this can operate at various levels.

Whilst strategic plans are often developed by the senior management team, their effectiveness depends on the extent of engagement of both managers and employees throughout the organisation. To deal with this, some organisations have endeavoured to involve people from throughout the organisation in the development of strategy. This might mean vertical “slices” of people involved in the process so as to ensure that the voices of all levels of the organisation are heard in the strategy formulation process. In one case about seventy people from all levels and all areas of the organisation are involved in the strategy development process. In order to reinforce engagement with strategy and enhance its communication, most organisations link it to their performance management process so that each individual can see how their roles link to the overall company strategy. Work plans for divisions and departments through organisations also provide an important link at operational levels.

- Not over doing it – How do you ensure that it isn't onerous and seen as extra work?
  - Strategy – to be seen as part of normal activities eg work plan
  - Strategy prioritisation – so focus on the vital few not try to do everything
  - Strategy – avoiding strategy strangulation

- Information – ensuring not overloading people (managers and employees)

Whilst engagement and drive are critical to success, caution needs to be exercised to ensure that managers and employees alike don't see excellence as creating additional workloads and in fact see that it can actually improve workloads. Quality improvement shouldn't create extra reporting requirements and the establishment of internal bureaucracies which often resulted from quality initiatives in the eighties and nineties. For strategy, some organisations seek to prioritise key targets so that there isn't a perception that too much is being sought. Furthermore, an emphasis in most organisations is placed on the strategy as a working plan to facilitate operations rather than being seen as the basis for a whole heap of reporting.

Use of data and information and analysis is a core aspect of excellence, yet at the same time it is important that employees and managers don't feel overwhelmed by the need to provide information through various reporting mechanisms. Many organisations today have tended to become bogged in producing and requiring documentation which tends to take time away from dealing with core activities and customers. Ensuring that only critical information is the focus is a way of keeping it from becoming a burden. Exception based reporting is one way of dealing with this.

The need to prioritise strategy so as to ensure that it is not overwhelming was considered a challenge by two organisations. One identified the critical few key strategies (very few objectives) and the other prioritised strategic goals by using a matrix which identifies urgency and impact on strategy to help select the key strategic priorities. One organisation refers to its strategy document as a work plan and the emphasis is placed on using it as a diagnostic tool rather than a reporting document. A few key KPI's drive strategy at all levels throughout the organisation with the remainder being used in operational areas.

Several organisations noted the need to take a "big picture" approach to processes in order to prevent getting bogged down in excessive detail and specific compliance and work role functions. Process improvement necessarily involves processes which are important to the organisation and which transcend functional areas so the focus needs to be strategic. A view expressed was that whilst improving smaller and more specific processes is part of a process improvement culture, the core processes need to be considered as a priority. One organisation has an objective to significantly reduce the number of processes and several organisations reported that they were simplifying processes where possible including aiming to be able to map them on a page.

- Consistency throughout the organisation – How do you ensure that all organisational sections and locations work to the same tune?
  - Especially multi-sites which require leaders to be working in the same direction with consistent messages.
  - Communication processes eg MBWA, site visits
  - Leadership – bringing the leadership team together on a regular basis
  - Isolation and silo mindsets to be avoided
  - Information – ensuring ease of access to information eg intranet

Consistency is an issue for both single and multi location organisations. In single sites, a challenge is to ensure that managers and leaders throughout the organisation are focusing on the key direction of the business excellence strategy. Key strategic issues help maintain this consistency but it is through the enactment of these strategies where consistency is critical. Communication and interpretation of the strategy is important to ensure understanding is consistent. In a few organisations, the physical presence of the senior leadership team throughout the organisation facilitates this. It may be through regular discussions with middle managers or through staff meetings that key messages are conveyed. Providing a range of internal material on an intranet facility is important in communicating information and assisting to maintain consistency throughout an organisation.

Where multiple locations are involved, the physical presence of the senior leadership team may be more challenging from a logistical point of view. However, one organisation ensures that the senior leadership team visits all eight sites in a major city on a regular basis and that this is seen as a core activity for the team. They tended to spend more time at the work sites than in their corporate office and indicated that email is not heavily used, instead a face to face meeting or phone call was the preferred method of communication. In another case, the distances between sites are much greater and therefore travelling is less frequent, but nevertheless it is seen as a key factor in maintaining both the drive for excellence and consistency.

Organisations which have a high proportion of their people operating with a high degree of autonomy “in the field” (eg service technicians) tend to face the challenge of consistency and ensuring people are supportive of the quality and excellence thrust. One organisation has about seventy percent of its employees in the field and they report to service leaders whose span of control is around eight people. In this case the service leaders, as front line managers, play an important role in communicating company policy and ensuring those for whom they have responsibility working in tune with the company strategy. To address the issue of communication between field leaders and technicians, they have “toolbox” meetings on a fortnightly basis to discuss matters of interest and customer complaints and issues. At the organisational level the Quality Steering Committee monitors customer complaints to identify trouble spots. The quality manager had also provided training on the benefits of continuous improvement to these leaders and technicians.

## **Conclusions**

The insights gained in this study shows that it is not always “plain sailing” for those who have reached excellence award status as they face challenges and impediments as they strive for excellence. Key challenges are; ensuring ongoing leadership drive and support throughout the organisation, gaining commitment and sustaining the momentum and making strategy meaningful to people at all organisational levels. Communication and engagement of people throughout the organisation is something which all organisations recognise as a challenge and adopt a range of measures to deal with. Whilst most organisations faced these issues, in many cases each had different strategies for dealing with them. This suggests a danger in assuming “best practice” approaches which might have universal application.

These challenges are faced by relatively mature organisations which have adopted excellence but are they also relevant for those seeking to implement excellence. How does this link to the previous literature on the topic? This paper provides insights into how organisations manage the challenges faced in the pursuit of excellence and not simply focusing on the reasons for sustainability or success and therefore extends on previous research in this area.

Whilst this study provides insights into how high performing organisations manage challenges in sustaining excellence, there is scope for further research on the topic. This might focus on; industry comparisons, international comparisons and whether these challenges remain over longer periods of time.

## References

- Asif, M., de Bruijn, E.J., Douglas, A. and Fisscher, O.A.M. (2008) Why quality management programs fail: A strategic and operations management perspective, *International Journal of Quality and Reliability Management*, 26, 778-794
- Australian Business Excellence Framework - [www.saiglobal.com.au](http://www.saiglobal.com.au) (accessed 26/9/2010)
- Baldrige Performance Excellence Program - [www.nist.gov/baldrige](http://www.nist.gov/baldrige) (accessed 26/9/2010)
- Black, S.A. and Porter, L.J. (1996) Identification of the critical factors of TQM, *Decision Sciences*, 27, 1-21
- Dale, B.G., Zairi, M., Van der Wiele, A. and Williams, A.R.T. (2000), Quality is dead in Europe – long live excellence True or false? *Measuring Business Excellence*, 4, 4-10
- European Foundation for Quality Management (EFQM) Model 2010 - [www.efqm.org](http://www.efqm.org) (accessed 26/9/2010)
- Naor, M., Goldstein, S.M., Linderman, K.W. and Schroeder, R.G. (2008) The role of culture as driver of quality management and performance: Infrastructure versus core quality practices, *Decision Sciences*, 39, 671-702
- Saraph, J.V., Benson, P.G. and Schroeder, R.G. (1989) An instrument for measuring the critical factors of quality, *Decision Sciences*, 20, 810-829
- Sebastianelli, R and Tamimi, N. (2003) Understanding the obstacles to TQM success, *The Quality Management Journal*, 10, 45-66
- Sohal, A.S. and Terziovski, M. (2000) TQM in Australian manufacturing: Factors critical to success, *International Journal of Quality and Reliability Management*, 17, 158-167
- Tamimi, N. (1998) A second-order factor analysis of critical TQM factors, *International Journal of Quality Science*, 3, 71-79
- Taylor, W.A. and Wright, G.H. (2003) A longitudinal study of TQM implementation: factors influencing success and failure, *Omega*, 31, 97-111
- Van der Wiele, T. and Brown, A. (2002), Quality management over a decade: A longitudinal study, *International Journal of Quality and Reliability Management*, 19, 508-523
- Venkateswarlu, P. and Nilakant, V. (2005) Adoption and persistence of TQM programmes – Case studies of five New Zealand organisations, *Total Quality Management*, 16, 807-825

## Appendix 1: Australian Business Excellence Framework Modules

<p>Strategy and Planning</p> <ul style="list-style-type: none"><li>-strategic direction</li><li>-the planning process</li></ul>
<p>Leadership</p> <ul style="list-style-type: none"><li>-throughout the organisation</li><li>-the organisation culture</li><li>-society, community and environmental responsibility</li></ul>
<p>People</p> <ul style="list-style-type: none"><li>-a great place to work</li><li>-building organisational capability through people</li></ul>
<p>Process management, improvement and innovation</p> <ul style="list-style-type: none"><li>-identification and management of processes</li><li>-process improvement and innovation</li><li>-process outputs</li></ul>
<p>Information and knowledge</p> <ul style="list-style-type: none"><li>-generating, collecting and analysing the right data</li><li>-creating value through applying knowledge</li></ul>
<p>Customer and market focus</p> <ul style="list-style-type: none"><li>-gaining and using knowledge of customers</li><li>-effective management of customer relations</li><li>-customer perception of value</li></ul>
<p>Success and sustainability</p> <ul style="list-style-type: none"><li>-measuring and communicating organisational performance</li><li>-decision making based on key stakeholders' perceptions of planned outcomes</li></ul>

*Source: SAI Global*



# **A Model for benchmarking Service Quality: small hotels on the periphery**

Michele Cano

Siobhan Drummond

Athanassios Kourouklis

University of the West of Scotland, High Street, Paisley, Scotland, U.K. PA1 2 BE

michele.cano@uws.ac.uk

siobhan.drummond@uws.ac.uk

thanos.kourouklis@uws.ac.uk

## **ABSTRACT**

Tourism is a highly significant part of the global economy, and it has been increasingly recognised over the last few decades that the success of an organisation within the industry depends on the standard of service provided (Augustyn and Ho, 1998). Models for measuring service quality have been widely used over this period (Parasuraman, 1988; Edvardsson et al, 1997; Brooks et al., 1999; Frost and Kumar 2000) and they have been applied to the hotel sector with good results (Wilson 2008).

Benchmarking, described as ‘the search for industry best practices that will lead to superior performance’ Camp (1989), has been used as a tool for quality improvement in industries as diverse as motor manufacture and banking and in a limited way to the hotel sector (Cano et al 2001).

This paper presents a conceptual model which combines service quality tools and benchmarking for improving the quality of service delivery within small enterprises in the hotel sector.

## **Key words**

Service Quality, benchmarking, tourism.

## **Background**

Having an effective strategy has been recognised for some time as one way of providing service quality to enhance the tourist experience (Page et al, 2001). In 2006, the then Scottish Executive (now Government) set out a tourism framework for change, ‘Scottish Tourism: The Next Decade’ outlining Scotland’s tourism development from 2005-2015 which included service quality as a priority in its Action Plan with the key objective of exceeding visitor expectations. It identified that a key to managing the quality of the overall visitor experience, including the quality of hotel accommodation, was an improved understanding of the needs of the customer (Scottish Executive, 2006). The relevance of service quality to Scotland’s tourism is seen as critical to this vital sector of the economy, recognised not just in this country but across the globe (Barsky and Labagh, 1992; LeBlanc, 1992; Stevens et al., 1995).

In order to be successful in the hotel sector and to outmanoeuvre competitors it has been recognised for a few decades that hotel providers must provide customers with service satisfaction. Customers, when satisfied with the quality of service they have enjoyed are more likely to establish loyalty (Cronin and Taylor, 1992), resulting in repeat purchases (Fornell, 1992) and positive word-of-mouth (Halstead and Page, 1992). The result is that good service quality improves the organisation’s market share and profitability (Oh and Parks, 1997). In a

highly competitive industrial sector, often seen as offering similar products and services, hoteliers need to find ways of making their offerings stand out and by understanding customers' needs, meeting and then exceeding them is key to achieving this outcome.

Teamwork, communication and motivation are recognised as key components in delivering service quality in tourism and hospitality (Drummond et al, 2006). In the hotel sector, studies in the UK (Watson et al, 2006) and the US (Davidson, 2003) have shown that these components are closely connected with management at all levels. The UK study undertook extensive research with Hilton Hotels and highlighted the need to embed Human Resource activities at line management level, rather than just at senior strategic level to ensure improved levels of service quality. In the US study of major hotels Davidson (2003) argues that if a good organisational climate exists for service, innovation and HR/employee welfare then it follows that the overall organisational climate will also be good and this provides the best possible conditions for quality service to take place. These studies highlight the need to invest in human resources at all levels, not just at strategic level, as the basis of any successful service organisation where the majority of its output is characterised by intangibility, heterogeneity and simultaneous production and consumption. The need for employee support is seen as important in dealing with these characteristics and in helping bridge the gap between the organisation and the customer.

Much of the research on service quality in the hotel sector has been undertaken in larger, corporate hotels despite the global composition of the industry comprising small, often family-owned, businesses on the periphery (Killic and Okumus, 2005). The image of a destination is often founded on the quality of the service received by customers in these small to medium sized enterprises (Briggs et al, 2007) so attention to enhancing the quality experience is a key factor in international performance.

Consideration of the gaps in service quality coupled with benchmarking can provide hotels with the opportunity of aligning their products and services much more closely with the needs of their customers but at the same time can provide other benefits such as employee satisfaction, adoption of lean management principles and sustainability.

This paper will begin with a literature review on the importance of service quality in the hotel sector and the ways in which it has been measured. It will also review an approach to benchmarking. A model for benchmarking service quality in small hotels will then be presented. This model is drawn from the findings of both literature and empirical research.

### **Service Quality in the Hotel sector**

Zeithaml et al (1990) highlight that service quality will not only aid organisations in achieving their service quality objectives but will aid in economic competitiveness. Rust and Oliver (1994) have found that organisations are interested in enhancing the service quality because they believe that in the long run, excellent service quality will lead to increased revenues and profits. Williams and Buswell (2003) also add that the external environment in the tourism industry is crucial, further demonstrating the importance of service quality and illustrating approaches for the management of service quality.

Mohsin and Lockyer (2010) discuss that hotels around the world give importance to service quality because it reflects on their standard and on the image of the service that they are offering. Therefore, the role of service quality is not one-sided, but can benefit other areas, as well contributing to a customer's overall impression of a hotel. However, Briggs et al (2007)

suggest that with regards to independent hotels, since a customer is unlikely to visit the same hotel twice, it could be argued that there is little incentive to provide quality service but Yoo and Park (2007) identify that effective and timely responses to customer needs are vital for an organisation to survive in an ever-changing environment. Therefore, organisations need to be aware of changing customer needs in order to provide the service quality at the right time. Helms and Mayo (2008) advocate that organisations should use service failures as opportunities for improving customer feedback, while Wilkins, Merrilees and Herington (2007) suggest that service quality will significantly influence performance and suggest that the service quality components can be manipulated by management.

Presbury et al (2005) conclude that there are a number of factors that affect service quality which they highlight as budget constraints, employee attitudes, a lack of training and high customer expectations. This reinforces the difficulty in maintaining a balance between these factors and suggests that management have to be intensely involved in the role of service quality in hotels to achieve this balance.

### **Measurement of Service Quality**

A topic that has generated a particular interest in the service quality research literature is the issue of measurement. Edvardsen et al (1994), state that the starting point in developing quality in services is analysis and measurement. Measurement allows for comparison before and after changes, for the location of quality related problems and for the establishment of clear standards for service delivery. Wilson (2008) analysed several reasons why service quality needs to be measured including forecasting of customer future expectations, to monitor and track service performance, to gauge effectiveness of service delivery and to identify dissatisfied customers so that service recovery can be attempted.

Several models have been developed to assist in the measurement of service quality such as:

- Technical and functional quality models (Gronroos, 1984)
- Gap model (Parasuraman et al, 1985)
- Attribute Service Quality model (Haywood-Farmer, 1988)
- Synthesised model of service quality (Brogowicz et al, 1990)
- Attribute and overall effect model (Dabholkar, 1996)
- The P-C-P attributes model (Philip and Hazlett, 1997)
- Internal service quality model (Frost and Kumar, 2000)

The gap model above has been the most popular, widely received, tried and tested model making valuable contributions to the service quality literature (Brown and Bond, 1995). This service quality measurement model helps to identify the causes of service quality shortfalls in each or all of the dimensions of service. Elements of the Gap model are outlined by Parasuraman et al. (1985) and built upon by studies undertaken by Zeithaml (1990), Shaaf (1997) and Wilson (2008) among others. These include:

- Gap 1 is the difference between consumers' expectations and management's perceptions of those expectations.
- Gap 2 is the difference between management's perceptions of consumers' expectations and service quality specifications.
- Gap 3 is the difference between service quality specifications required by the management and the service actually delivered.

- Gap 4 is the difference between service quality and the communication to consumers about service delivery.
- Gap 5, the customer gap, is the overall difference between consumers' expectations and perceived service.

Furthermore, based on the concept of service quality, Parasuraman et al (1985, 1988, 1991, 1994) developed a service quality measurement scale called 'SERVQUAL' which identifies 10 dimensions of quality namely:

- tangibles (appearance of the environment),
- reliability (ability to perform promised service accurately and dependably)
- responsiveness (the willingness to help customer and provide prompt service)
- communication (listening and acknowledging customer complaints, comments etc)
- credibility (trustworthiness of the provider)
- security (freedom from danger, risk or doubt)
- Competence (skill and knowledge to perform the service)
- Courtesy (politeness, consideration and friendliness of staff)
- Understanding/knowing customers
- Accessibility

These can be consolidated into 5 dimensions reliability, tangibles, responsiveness, assurance and empathy (Parasuraman et al, 1988). For the purposes of this research these five dimensions were investigated.

### **Benchmarking**

Benchmarking has been referred to 'as the search for industry best practices that will lead to superior performance' (Camp, 1989). Based on this simple definition operational activities can be improved by encouraging those undertaking benchmarking to search for the best practices, which aims to result in superior performance. Benchmarking can work in all possible areas of services and related processes across different business boundaries and can involve changing the current practices and business methods to achieve company goals. Furthermore, Zairi (1994) considers benchmarking the ideal vehicle for ensuring that capability and sustainability are present all the time and that long-term together with short-term results are achieved.

The hotel sector, as part of the service industry, entails consumers' intimate participation with the organisation, its employees and other guests at various stages of the production and consumption process (Grönroos, 1982). Therefore with this dependency on the service experience, managers of such industries must address service quality issues on which the success of their businesses ultimately lie.

Future competition will be driven by intense preoccupation with the quality of service to enhance overall the consumer experience (Kandumpully, 2000). Benchmarking is a tool that can assist in enhancing the service quality and ultimately the consumer experience. The main types of benchmarking are considered to be internal, competitive, functional and generic (Camp, 1989) and (Zairi et al, 1994).

- Competitive benchmarking is a comparison with a direct competitor.
- Internal benchmarking is looking for best practices internally e.g. multinational companies.

- Functional benchmarking looks at specific functions with similar functions that are ‘best in class’ (usually non-competitor).
- Generic benchmarking considers processes, which extend across functional barriers and organisation sectors.

The process of benchmarking, although being a tool, is very difficult to apply (Zairi et Leonard, 1994) and there exists a plethora of methodologies, the Rank Xerox probably being one of the best known. The Xerox model (Robert Camp, 1989) consists of five stages Planning, Analysis, Integration, Action and Maturity. The first four stages are then dissected into 10 steps in a closed loop system as follows:

### **Planning**

1. Identify what is to be benchmarked
2. Identify benchmarking partners
3. Determine data collection method

### **Analysis**

4. Determine current competitive gap
5. Project future performance

### **Integration**

6. Communicate results of analysis
7. Establish functional goals

### **Action**

8. Develop action plans
9. Implement plans – monitor results
10. Recalibrate benchmarks

### **Maturity**

Leadership position obtained and maintained through full integration into process and practices.

However, although this model is well practised in other industrial sectors, it has yet to realise its potential within the hotel sector.

### **Research Design**

The case study selected was focused on five small hotels in a peripheral region of Scotland. This region was chosen because it typifies the shift to a service driven economy that has become more dependent on tourism as a key economic driver.

The research aimed to

1. Identify the factors important in delivering service quality in small hotels
2. Relate these factors to the dimensions of SERVQUAL
3. Develop a model to assist small hotels in benchmarking service quality.

Interviews were carried out with senior management in each case using semi-structured questions to assist in the process. Each of the interviews was undertaken on the premises and lasted around 1 hour.

The following table summarises the results.

<b>SERVICE QUALITY FACTORS</b>				
<b>Hotel A</b>	<b>Hotel B</b>	<b>Hotel C</b>	<b>Hotel D</b>	<b>Hotel E</b>
Personalised service The right personnel Training Communication Technology	The right personnel Training Customer focus Continuous – improvement	Personalised service The right personnel Customer focus Maintain standards	Maintain standards Personnel “the team” Training Communication	Maintain standards Personnel Personalised service Physical surroundings

**Table 1 – Service quality Factors**

The above factors are discussed below.

### **Personnel and Training**

Of the factors for service quality that emerged from the interviews, ‘the right personnel’ and ‘training’ were considered to be directly related to the reliability dimension of SERVQUAL (Parasuraman et al, 1988).

The following table draws directly from the five respondents in identifying the importance of personnel in contributing to service quality in hotels, highlighting their significance in the process of service quality.

Hotel A	<i>“Totally vital”</i>
Hotel B	<i>“The people are our product”</i>
Hotel C	<i>“Number one”</i>
Hotel D	<i>“The crux of the business”</i>
Hotel E	<i>“Very important”</i>

**Table 2 The importance of personnel**

In the interview Hotel A indicated that getting the right staff is a vital asset in delivering service quality, confirming the importance of attracting and developing skills to deliver quality in Scotland’s tourism (Scottish Executive, 2006). Hotel C re-employed valued employees in order to improve the level of service quality. Hotel B’s policy is to *“Hire for attitude; train for skills”* which would suggest that it is not as important to attract people who have the right skills; but to attract people who have the right attitudes while Hotels D and E do not seem to view attracting skills as a priority.

Each of the small hotels provided training in service quality. Hotels A and B went even further to ensure the education of their employees. Furthermore, it emerged that Hotels B and C invest heavily in developing skills through their training and induction programmes and it could be argued that they invest more time and effort in training than the other three hotels.

This is verified by Yoo and Park (2007) who discuss the importance of employee training in delivering service outcomes and highlight the importance of employees in delivering perceived service quality.

In addition, employees at Hotels A and D are required to be cross-functional necessitating a need for ongoing training. The term “*team*” featured strongly during the interviews when referring to the need to multi-task.

### **Physical Surroundings and Technology**

The Scottish Executive (2006) mentions the quality of the environment and quality of accommodation as being important.

Guaranteeing visitors a “*good night’s sleep*” was seen as a critical element and highlights the importance of quality in the accommodation sector.

Due to the geographical location of the hotels in a scenic peripheral area, the physical surroundings could be seen as being an important attribute of service quality. Rust and Oliver (1994) discuss the importance of the physical surroundings in adding to the quality of service and in creating the necessary ambience.

During the interviews it emerged that technology was becoming ever more important and challenging for these small hotels. On-line booking, promotion and the customer technology requirements in public and private rooms was now an essential rather than desired requirement.

Physical surroundings and technology relate directly to the tangible dimension of SERVQUAL.

### **Customer Focus and Communication**

Although all five hotels have systems for collecting customer feedback, during the interviews only one hotel identified the customer as being the most important element. Yoo and Park (2007) say that service quality must come primarily from customer needs rather than management control. Furthermore, Zeithaml et al (1990) state that only customers judge quality with all other judgements being essentially irrelevant. While Slack et al (2007) say that quality must be understood from the customer perspective because quality will be whatever the customer perceives it to be. However, Briggs et al (2007) found that the concept of service quality in hotels in Scotland came more from the hotels themselves than from customers. This then appears to be an issue for the Scottish Hotel sector.

Hotel A placed emphasis on internal customers as employees are urged to consider the impact their work has on their colleagues. Slack et al (2007) and Oakland (2003) also stress the importance of satisfying internal customers to ensure that external customers are satisfied. Hotel A refers to this as “*Supporting colleagues to support the customer*”.

Communication between guests and employees and amongst employees themselves is vital and service quality in hotels is reliant on sharing information (Hope and Muhlemann, 1997) (Presbury et al, 2005).

This research found that the hotels have a range of systems for measuring quality; some of which involve communicating directly with customers. Through feedback mechanisms, each of the hotels interviewed use this information to improve on service quality. The various feedback mechanisms demonstrate that all stakeholders are being involved in quality. For example, Hotel C receives staff input through their staff website. In comparison, Hotel B carries out an annual staff and customer survey. In Hotel D, regular customers play a part in

critiquing the service. Hotel A also indicated there was excellent communication amongst its staff due to having three meetings per day to ensure continuity.

A customer focus and communication have a direct impact on the responsiveness dimension of SERVQUAL.

### **Maintaining standards**

“Standards are key to keeping quality consistent and high” (VisitScotland, 2011). Each of the five hotels in this case study highlights the importance of either “continuous improvement” or “maintaining standards”. Each of the hotels agreed that Quality has become a strategic issue for the hotel sector in recent years. This is further supported by the findings of Presbury et al (2005). All hotels had documented systems in place for assuring standards of service quality were maintained. These systems were reviewed on a regular basis.

Furthermore, Wright (1999) states the importance of maintaining standards and in ensuring that employees are motivated to give consistent service. Hope and Muhlemann (1997) advocate that good practice can result from motivation of staff. Each of the interviewees placed high emphasis on staff motivation and culture of continuous improvement in helping to maintain standards.

Hotel A contends that maintaining standards and service quality are so integrated into their cultural values that personnel do not even think about them. Hotel B suggested that service quality is such an important part of the culture that employees deliver service quality to the required standard naturally.

Maintaining standards is referred to as the assurance dimension of SERVQUAL.

### **Personalised service**

All of the hotels provided evidence of offering a personalised style of service. Hotel A highlighted that their unique selling point was “*personal service*” and had a range of ways of delivering personal service to the guest, including compiling guest histories. Employees are able to offer a personalised style of service to regular customers and personnel actively learn about their guests staying with them. The focus is not on standardisation because they are not catering for the mass consumer. Each of the hotels seeks to deliver value and high quality service to the customer due to having close interaction with customers, strengthening the offering of a personal service. One of the ways in which Hotel C personalised its service is by talking to customers and dealing with any problems while the guest is still at the hotel. Hotel C also encourages its staff to deliver “*magic moments*” to the customer.

Furthermore, all the interviewees highlighted the importance of being “*hands-on*” and not being office-based.

Personalised service is part of the empathy dimension.



### Summary of Service Quality factors with SERVQUAL

The relationship of these factors with the SERVQUAL dimensions is shown in Table 3.

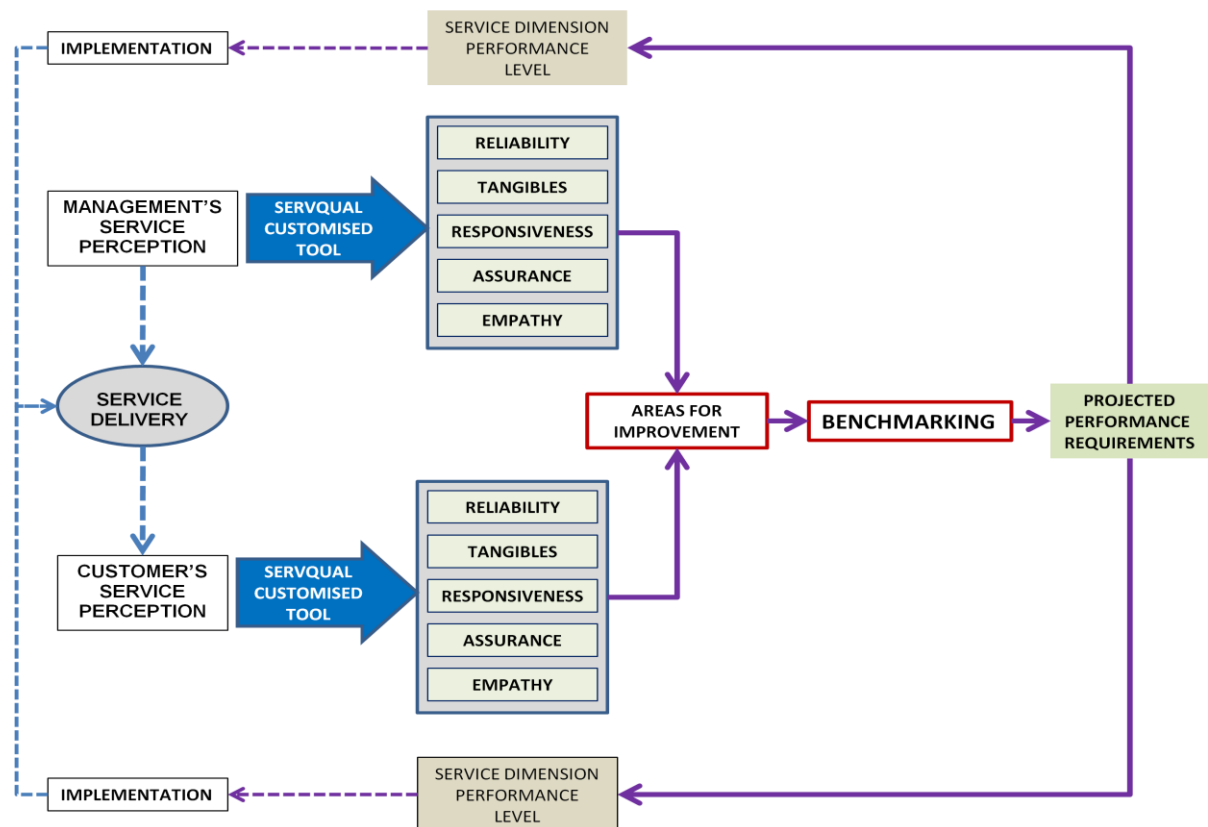
Relationship with SERVQUAL dimensions				
RELIABILITY	TANGIBLES	RESPONSIVENESS	ASSURANCE	EMPATHY
Personnel Training	Physical surroundings Technology	Customer focus Communication	Maintaining standards	Personalised service

**Continuous Improvement**

**Table 3 – Service quality Factors and SERVQUAL dimensions**

### Service Quality Improvement Model for Small Hotels

Based on a review of the literature coupled with results of the case study the authors propose the following model for improving service quality through internal mechanisms via the use of SERVQUAL and externally through benchmarking.



**Figure 1: Benchmarking Service Quality Improvement model for Small Hotels**

In the model, Management perceptions of the delivered service are determined by the level of standards set by the organisation. These may be qualifying levels of performance rather than order winning performance (Hill, 1985). Using an adapted SERVQUAL instrument based on the five dimensions and the critical factors identified from the case studies, these levels can

be measured and compared with the customer perceptions. The customer perceptions are again assessed using an adapted SERVQUAL instrument. This will highlight gaps and identify possible areas for improvement.

The SERVQUAL customised tool allows small hotels to operationalise the concept of service quality on the basis of the five dimensions. This tool consists of structured questions based on the identified service quality factors for small hotels (see table 3).

Once weak areas are identified, a structured benchmarking approach such as that proposed by Camp (1989) can be used to project new performance levels which enable organisations to gain competitive advantage.

Once new service dimension performance levels have been determined improvement plans can be implemented feeding back to the customer and management service perceptions.

### **Conclusions**

Scottish tourism is an increasingly important sector of the economy and the hotel industry plays a key role in it. The quality of service provided is recognised as being one of the key drivers to ensure hotels remains competitive, especially during a period of global recession. However the industry comprises mainly small businesses and this presents a challenge in ensuring quality consistency and customer satisfaction.

This paper presented literature which identified the benefits of several quality models to assist businesses in their pursuit of quality and highlighted the effective use of SERVQUAL in the hotel sector. It also illustrated that although benchmarking is seen as an important quality tool it is not widely used in this sector.

The results of a case study were presented that helped identify the service quality factors most important to small hotels on the periphery. These factors were then related to the dimensions of SERVQUAL and were used to develop a new conceptual model for improving service quality through a combined service quality and benchmarking approach. The first stage in this model i.e. measuring management perception was undertaken in this small study and the results suggest that there is merit in moving to measure the customer perception with a view to identifying areas for improvement and using benchmarking as a means of setting new levels of performance requirements.

### **References**

- Augustyn, M and Ho, S.K. (1998) 'Service Quality and Tourism' *Journal of Travel Research*, vol. 37, 1: pp. 71-75
- Barsky, J.D. and Labagh, R. (1992), 'A strategy for customer satisfaction', *Cornell Hotel & Restaurant Administration Quarterly*, Vol. 33 No. 5, pp. 32-40.
- Briggs, S., Sutherland, J. and Drummond, S. (2007) 'Are hotels serving quality? An exploratory study of service quality in the Scottish hotel sector' *Tourism Management* 28 (4) 1006-1019
- Brogowicz, A.A., Delene, L.M. and Lyth, D.M. (1990) 'A synthesised service quality model with managerial implications'. *International Journal of Service Industry Management*, Vol. 1 (1), pp. 27-44.

- Brooks R.F., Lings In, Botschen MA (1999) 'Internal Marketing and Customer driven Wavefronts', *Service Industries Journal* Vol 19 (4), pp49-67
- Brown, S.W. and Bond, E.U. (1995) 'The internal market/external market framework and service quality: toward theory in services marketing'. *Journal of Marketing Management*, Vol. 23, pp. 25-39.
- Camp R.C. (1989), *Benchmarking: The search for industry best practices that Leads to Superior Performance*, ASQC Quality Press, Milwaukee.
- Cano M, Drummond S, Miller C '(2001), 'Learning from others; Benchmarking diverse tourism operations' *TQM Magazine*, Vol 12 No. 7&8 December.
- Cronin, J.J. Jr. and Taylor, S.A. (1992) Measuring service quality: A re-examination and extension. *Journal of Marketing*. Vol. 56(3), pp. 55-68.
- Dabholkar, P.A. (1996) 'Consumer evaluations of new technology-based self-service operations: an investigation of alternative models'. *International Journal of Research in Marketing*, Vol. 13 (1), pp. 29-51.
- Davidson, M.C. G. (2003) 'Does organizational climate add to service quality in hotels?' *International Journal of Contemporary Hospitality Management*, Vol. 15 Iss: 4, pp.206 - 213
- Drummond, S., Cano, M. and Anderson, H. (2006) 'How Important is Service Quality in Making Heritage Visitor Attractions (HVAs) Viable?' *9<sup>th</sup> International Conference on Building people and Organisational Excellence*, August 2006, Liverpool.
- Edvardson, B., Tomasson, B. and Ovretveit, J. (1994) *Quality of Service: Making it Really Work*, New York: McGraw-Hill.
- Edvardsson, B., Larsson, G. and Setterlind, S. (1997) 'Internal service quality and the psychological work environment: an empirical analysis of conceptual interrelatedness'. *Service Industries Journal*, Vol. 17 (2), pp. 252-63.
- Fornell, C. (1992) 'A National Customer Satisfaction Barometer: The Swedish Experience'. *Journal of Marketing*, 56 (1), 6-21
- Frost F.A., Kumar M. (2000) INTSERVQUAL: An internal adaptation of the gap model in a large service organisation. *Journal of Services marketing*, Vol 14 (5) pp 358-77
- Gronroos, C. (1982) *Strategic Management and Marketing in the Service Sector*, Swedish School of Economics and Business Administration, Helsingfors.
- Gronroos, C. (1984) 'A service quality model and its marketing implications'. *European Journal of Marketing*, Vol. 18 (4), pp. 36-44.
- Halstead, D. and Page, T.J.Jr. (1992). 'The effects of satisfaction and complaining behaviour on consumers repurchase behaviour', *Journal of Satisfaction, Dissatisfaction and Complaining Behaviour*, 5: 1-11.

- Haywood-Farmer, J. (1988) 'A Conceptual Model of Service Quality', *International Journal of Operations & Production Management*, Vol. 8 Iss: 6, pp.19 - 29
- Helms, M. M. and Mayo, D. T. (2008) 'Assessing poor quality service: perceptions of customer service representatives' *Managing Service Quality* 18 (6) 610-622
- Hill, T. (1985) *Manufacturing Strategy*, Macmillan, London
- Hope, C. and Muhlemann, A. (1997) *Service Operations Management: Strategy, design and delivery* London: Prentice Hall
- Kandumpully, J. (2002). *Services management: The new paradigm in hospitality*. Elsternwick, Hospitality Press,
- Kilic, H. and Okumus, F. (2005) 'Factors influencing productivity in small island hotels: Evidence from Northern Cyprus', *International Journal of Contemporary Hospitality Management*, Vol. 17 Iss: 4, pp.315 - 331
- LeBlanc, G. (1992). 'Factor Affecting Customer Evaluation of Service Quality In Travel Agencies: An Investigation Of Customer Perception'. *Journal of Travel Research*, 30 (4), 10-17.
- Mohsin, A. and Lockyer, T. (2010) 'Customer perceptions of service quality in luxury hotels in New Delhi, India: an exploratory study', *International Journal of Contemporary Hospitality Management* 22 (2) 160-173
- Oakland, J. (2003) *Total Quality Management*, Oxford: Butterworth-Heinemann
- Oh, H. and Parks, S.C. (1997). 'Customer satisfaction and service quality: a critical review of the literature and research implications for the hospitality industry.' *Hospitality Research Journal*, 20(3): 35-64.
- Page, S. J., Brunt, P., Busby, G. and Connell, J. (2001) *Tourism: A Modern Synthesis*, London: Thomson Learning
- Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1985) 'A Conceptual Model of Service Quality and Its Implications for Future Research'. *Journal of Marketing*, Vol.49 (4), pp. 41-50.
- Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1988) 'SERVQUAL: A Multiple Item Scale for Measuring Consumer Perceptions of Service Quality.' *Journal of Retailing*, 64(1), pp.12-40.
- Parasuraman, A., Berry, L. L. and Zeithaml, V. A. (1991) 'Refinement and Reassessment of the SERVQUAL Scale'. *Journal of Retailing*, 67(4), 420-450.
- Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1994) 'Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research'. *Journal of Marketing*, Vol.58, pp. 111-124.

- Philip, and Hazlett, S.A. (1997) 'The measurement of service quality: a new P-C-P attributes model', *International Journal of Quality and Reliability Management*
- Presbury, R., Fitzgerald, A. and Chapman, R. (2005) "Impediments to improvements in service quality in luxury hotels" *Managing Service Quality* 15 (4) 357-37
- Rust, R. T. and Oliver, R. L. (1994) '*Service Quality: New Directions in Theory and Practice*. New York: Sage Publications.
- Schaaf, D. (1997) *Keeping the Edge: Giving Customers the Service they demand*. New York: Plume Penguin.
- Scottish Executive (2006) 'Scottish Tourism: The Next Decade', Edinburgh: Scottish Executive
- Slack, N., Chambers, S. and Johnston, R. (2007) *Operations Management*, (5<sup>th</sup> ed) Harlow: Financial Times Prentice Hall
- Stevens, P., Knutson, B. & Patton, M. (1995). 'Dineserve: a tool for measuring service quality in restaurants', *The Cornell Hotel and Restaurant Administration Quarterly* 56–60.
- VisitScotland (2011) "VisitScotland Corporate Plan 2010/2013" (created n.d) [www.visitscotland.org](http://www.visitscotland.org) [Accessed 19/05/11]
- Watson, S. and Maxwell, G. (2006) 'Perspectives on line managers in human resource management: Hilton International UK Hotels', *International Journal of Human Resource Management*, 17 (6). pp. 1152-1170.
- Wilkins, H., Merilees, B. and Herington, C. (2007) 'Towards an understanding of total service quality in hotels', *International Journal of Hospitality Management* 26 (4) 840-853
- Williams, C. and Buswell, J. (2003), *Service Quality in Leisure and Tourism*, Oxon: Cabi Publishing
- Wilson A, Zeithaml, VA Bitner MJ, Gremler DD, (2008), *Services Marketing: Integrating Customer Focus across the Firm*, First European edition, Berkshire, McGraw Hill education.
- Yoo, D. K. and Park, J. A. (2007) 'Perceived service quality: Analyzing relationships among employees, customers and financial performance' *International Journal of Quality and Reliability Management* 24 (9) 908-926
- Zairi, M. and Leonard, P. (1994) *Practical Benchmarking: The Complete Guide*, London: Chapman & Hall.
- Zairi, M. (1996) *Effective management of Benchmarking projects: practical guideline and examples of best practice*, Chapman & Hall, London.
- Zeithaml, V. A., Parasuraman, A. and Berry, L. (1990) *Delivering Quality Service: Balancing Customer Perceptions and Expectations*, New York: Free Press.

# **Evaluation of Continuous Improvement Approaches within the Scottish Manufacturing Sector.**

Michele Cano  
University of The West of Scotland Quality Centre  
michele.cano@uws.ac.uk  
Abdessamad Kobi, Istia, University of Angers  
abdessamad.kobi@univ-angers.fr

## **Abstract**

In order to improve production efficiencies and maximise profits, organisations in Scotland have been adopting approaches such as Lean Manufacturing, Six Sigma and ISO9000:2008. Studies have been carried out comparing the benefits of these approaches (Kumar and Antony, 2008)(Antony 2011)(Bendell, 2006)(Naslund, 2008) or reviewing attempts at integrating continuous improvement approaches (Ho, 2010). However, using performance indicators as a measure of the impact of these techniques is not well established. This paper presents preliminary results of research, based on interviews with nine Scottish manufacturing companies, to determine the impact of adopting continuous improvement approaches on key manufacturing and financial indicators.

## **Key Words**

Lean, Six Sigma, Lean six sigma, ISO9001:2008, performance indicators.

## **Introduction**

At one time the manufacturing industry was a major sector in Scotland's economy but the Scottish economy has undergone major changes and as a result manufacturing's position within it has changed significantly (Scottish executive, 2004). These changes have been driven by a move to an economy based more on services than manufacturing, increased global competition and companies transferring work to cheaper locations.

However, the recent financial crisis has had a severe impact on economies throughout the world. In Scotland, in which the financial sector was a major contributor to the economy, this crisis has brought attention back to the importance of the manufacturing industry in Scotland (King 2010).

In order to become sustainable in the current climate, and with the increase in competition, there is a move in the Scottish manufacturing industry to compete on value and quality rather than price. (MacBryde, 2009). Livesey (2009) also recognises the move to higher value manufacturing, where competition is not reliant on price, is seen as a solution to combating competition from low cost economies.

MacBryde (2009) highlights the urgency in helping companies in Scotland to improve processes and capabilities that deliver value.

While recognising that orders and confidence have begun to increase in the sector, the Scottish Executive (2004) state that Scottish manufacturers must seek ways to ensure their processes are efficient and effective.

Furthermore, Scottish Enterprise, the government body assigned with the promotion and development of Scottish businesses recognise the importance of the manufacturing sector in its strategic plan and it is recognised that in order to become sustainable, this sector must become leaner in its operations.

With a focus on lean and other improvement approaches driven by the Scottish Executive a number of government funded bodies have been set up in the last decade to provide specialist manufacturing advice to companies.

The overall aim of the research is to review the approach Scottish manufacturing companies have adopted in continuous improvement and highlight the benefits realised.

The main objectives of the research are to:

- Establish which approaches to improvement were being used and to what extent.
- Understand the impact of these approaches on both financial and manufacturing performance.
- Determine any themes and trends.

This paper presents the preliminary results of the research, based on interviews carried out within nine manufacturing organisations in Scotland.

Before the results of the research are presented a brief overview of the main approaches is given below.

### **Approaches to improvement**

There has been much debate about the various approaches to improvement namely Lean, six sigma and lean six sigma. Some argue that they are the latest fads which are just repackaged versions of TQM, others say that they offer real benefits to the organisation (Naslund, 2008).

Lean is an approach which was developed by Ohno (1988) as the Toyota Production System and later became well established by Womack et al (1990) as Lean Manufacturing.

Lean manufacturing is an approach in which the main aim is to eliminate waste from all processes, leaving only value added activities. Value added activities refer to activities which the customer would be willing to pay for. There are five main principles to lean manufacturing (Womack and Jones, 2003)

- specify value, identify all the value added activities in the process
- identify the value stream, show the chronological order of activities that add value
- create continuous flow, remove or reduce non value added activities and ensure that there is a smooth flow within the process.

- organise customer pull and, similarly to JIT allow the customer to pull the product through production.
- pursue perfection, keep repeating the above steps to ensure continuous improvement.

As with Lean manufacturing, six sigma offers the opportunity to reduce waste and maximise profits (Revere et al). Six sigma is an approach which looks at reducing defects in a process by taking a structured and statistical approach to reducing variation (Naslund, 2008). By controlling the process and finding ways to identify and eliminate root causes of problems defects can be prevented. Six sigma methodology is based on the following steps: Define, measure, analyse, improve, and control.

A hybrid of Lean manufacturing and six sigma is said to be Lean six sigma (Pepper and Spedding, 2009). It is an approach which uses both the DMAIC methodology and the principles of lean to produce an overall framework (Bendell, 2006).

The ISO 9000 family of standards, on the other hand, provides consensus on good quality management (www.ISO.org.uk, 2011). The requirements of the standard are contained in ISO 9001:2008. This part of the standard provides a framework which can aid organisations to take a structured approach to managing quality. The standard operates under eight guiding principles which senior managers can use to increase performance in the organisation (ISO.org.uk). These principles are:

- Customer focus, understanding your customer requirements and efforts to meet these requirements are important to improving the bottom line in the organisation.
- Leaders establish unity and direction within the organisation (ISO.org.uk) and as a result set example and motivate employees towards achieving the quality objectives of the organisation.
- Involvement of people, motivated and empowered people are the key to success of an organisation.
- Process approach, understand and managing your processes can lead to improvements.
- A system approach to management, understanding how processes interact and relate to each other as a system can help achieve better performances and improved efficiencies.
- Continual improvement, looking for improvements on a continual basis from everyone in the organisation can lead to substantial improvements.
- Factual approach to decision making, making decisions based on measured information.
- Mutually beneficial supplier relationships, working with suppliers can create cost savings and value for both.

Many customers require that organisations have ISO9001:2008 before they will do business with them.



These approaches to continuous improvement have been adopted in have been adopted by Scottish manufacturing companies over the last ten to twenty years.

### **Data Collection Method**

This research was carried out to determine which of these continuous improvement processes manufacturing companies in Scotland were adopting and to what extent. Furthermore companies were asked to indicate the impact of the implementation on their key manufacturing and financial performance indicators. The research also sought to ascertain the budgets used for implementation and maintenance of the approaches.

The results presented are based on the findings from semi-structured interviews carried out within nine manufacturing organisations. Over 100 companies were contacted via e-mail to establish their willingness to take part. Of the nine companies who initially indicated willingness to take part, a number of interviews were carried out with personnel from each. People interviewed within each company were managing directors, financial managers, quality managers and productions managers. This ensured that information was gained from all those responsible for the implementation at senior level and enabled an overall impression of the success of the implementation. The interviews lasted between 40 and 60 minutes.

### **Results**

Of the companies involved in the preliminary research, seven were manufacturing branches of larger multinational organisations. Three of the companies had been bought over by multinational organisations in the last five years. The results are presented in the following sections.

#### **Size of the companies**

Three of the companies fell into the small to medium size enterprise (SME) category with fewer than 250 employees. Another four had between 300 and 500 employees and the final companies had over 500 employees. Both companies in this last category of employees greater than 500, did not belong to a larger multinational organisation i.e. both were Scottish owned companies. Both these organisations are in the food and drink sector of the Scottish manufacturing industry.

Company	A	B	C	D	E*	F	G*	H	I
No. Employees	427	450	105	115	520	200	950	320	450

**Table 1: Size of companies taking part in research**

\*Scottish owned companies

#### **Improvement approaches implemented**

The following table summarises which companies use which approaches and the length of time since implementation in years.

Company (years)	A	B	C	D	E	F	G	H	I
<b>Approaches</b>									
<b>ISO9001</b>	>10	22	17	5			19	>10	10
<b>Lean</b>	>10	9	7	1	<5	6		5	16
<b>Six Sigma</b>						4			8
<b>LSS</b>						1			

**Table 2: Years of implementation of improvement approaches**

The following sections discuss the each of the improvement approaches taken by the companies in the study.

### 1) ISO9001:2008

All but two of the companies have implemented ISO9001:2008 and have certification. Of the two companies not implementing ISO9001:2008, one was a Scottish owned company who did not feel it was necessary. The other, a Japanese owned organisation, stated it was not part of the group's strategy to have ISO9001;2008. Both these companies have industry specific quality systems to which they operate.

One of the companies (company D) lost its certification but regained it two years ago. Most interviewees stated that ISO9001:2008 was a necessary tool in order to enter markets and do business. Of all the companies none had a budget for implementing or maintaining ISO9001:2008. It was very much seen as part of normal operational costs. One company (company B) estimated maintaining it to be around £35,000 per annum which included the salary of the Quality Manager and third party audits.

### 2) Lean manufacturing

The next most implemented approach is lean manufacturing. Only one company (company G), has not attempted to implement lean manufacturing but it is something it may consider in the future. The implementation of lean manufacturing had various results. From the interviews, some companies did not progress beyond 5S.

One company (company D) felt that focus was lost after one year of implementing 5S and the lean initiative failed as a result. Culture and lack of employee motivation were the main reasons for the failure. Interestingly this is the same company that lost its accreditation to ISO9001:2008 two years ago. This same company also stated that they were a cash rich and as a consequence 'waste happy'. A lack of competitors in the industry sector meant that sales were good and the focus was therefore not on reducing waste. No directives regarding implementing improvement methods had come from the group owners but it was recognised that if sales were to decrease then this may change. The initiative to implement 5S was driven by one of the employees.

Interestingly culture and employee motivation and satisfaction seemed to be a recurring theme. Those that had successfully implemented some of the tools of lean manufacturing

stated that a positive change in culture and employee satisfaction was seen. One managing director (company C) stated that 'Lean, 5S and continuous improvement have brought about a change of attitude throughout the company. "I would say that communication has been the biggest improvement and has led to everyone in the company to be more aware of the importance of improvement and the benefits it brings to the company ourselves and job security". This positive change in attitude was also reinforced by the quality managers of company B, C and I, the financial manager of company A and the plant director of company F. Fled (2001) affirms that staff motivation is one of the most important factors in the success of lean implementation.

Company E had implemented 5S at one site only but had not progressed beyond this at present. Initial results had been positive.

Company H felt that they mixed results with the implementation of lean manufacturing due to their ad hoc approach. The implementation of 5S made an initial impact but had 'fallen away' but was currently being revisited. This same company felt that their lean maintenance programme (Total Productive Maintenance, TPM) had driven down costs through reduced breakdowns.

Company A also felt that their focus on lean had fallen away with only 5S being maintained. SMED and TPM had been implemented in the past.

Three of the companies B, F and I continued to use a full suite of tools. Company I in contrast to the other companies who started with 5S, started with TPM moved to 5S. It found initial implementation of TPM back in 1995 very difficult but has, more recently, has re-introduced it, finding it much easier to implement this time round. This is most probably due to the positive attitude of the employees to continuous improvement.

One company (company H) stated a budget of £200,000 had been set initially for implementation. The other seven companies implementing Lean did so as part of operating costs. Company F gained financial support as required from senior management.

### **3) Six Sigma /Lean Six Sigma**

Company F and I had gone on to implement Six Sigma. One company (company F) continued to use these tools and had started to implement Lean Six Sigma.

Company I felt that it no longer implemented 'lean' or 'Six Sigma', but used the tools when necessary within improvement projects. The Quality Manager of company I referred to its approach to improvement as project based using a toolkit. All employees were familiar with the tools and he felt that one of the biggest benefits to be realised was a culture of positive problem solving.

Company F was the only company to go on to implement Lean Six Sigma. The Quality Manager of Company I, a Master Black belt in Six Sigma felt that a Lean Six Sigma

programme was not necessary as the employees had been trained in and used all the tools they required.

Although no specific budgets had been set, the cost of training for Six Sigma had been absorbed at a corporate budget for company I.

#### **4) Other Approaches**

Other approaches included ISO14001 with a 5 of the companies having implemented a system to the standard requirements. Investors in People, and industry specific quality systems which included requirements for the nuclear industry, food industry and automotive industry were also adhered to as customers required.

#### **Improvements and Key Performance Indicators (KPIs)**

Company A use quality costs as main KPIs. It saw an annual increase in turnover and profit before tax since 2009. Quality cost data based on rework, returns, penalties and warranties decreased annually. Non Conformance Reports also reduced in this time frame. Reduction in quality costs was attributed to continuous improvement and adherence to the quality system. Staff satisfaction had also increased based on the results of the employee surveys. Increase in turnover was attributed to gaining accreditation to the nuclear industry quality standards and entering new markets.

Company B operate a balanced scorecard system. At top level KPIs target Quality Cost and delivery ad these are deployed to operational area levels. Examples include maintenance, 5S and 5 Why targets. Between 2008 and 2011 TPM activity led to an increase of 10% of equipment availability and a reduction in overtime hours. The engineering group also measure overall efficiencies as an indicator of the success of autonomous maintenance. 5S audits are carried out each month with a score target of 85%. In addition, the target for 5 Why is to take root cause action within 7 days of the problem being reported. In 2008, 34% achieved this target and by 2010 this had increased to 68%. As a direct result of this, customer complaints reduced to zero.

For company B the financial turnover actually decreased but this was attributed to the economic recession and currency fluctuations.

Company C use the following KPIs: 5S performance; customer delivery performance; lead time; defect per million opportunities (DPMO); customer complaints; stock accuracy and turns; Health & Safety (H&S) incidents; quality cost data. All KPIs have improved including reduction in customer complaints, DPMO, H&S incidents, lead times and improvement in stock turns and accuracy (10%), delivery performance (84 – 96%) and output (20%). Cost of Quality is a measure of complaints, returns, compensation payouts and additional freight. In 2007 the cost of quality was £110 000. This has reduced annually to 65 000 in 2010. Turnover for 2010 was £19.2million with a growth of 20%.

Company D has no specific KPIs related to improvement activities, other than regaining and maintaining ISO9001:2008 certification and gaining zero NCs from 3<sup>rd</sup> party audits.

Certification was achieved. The Quality Manager is now measuring quality costs based on in-house scrap and customer warranties. The cost of quality for 2010 was £447,251 of which £221,967 came from in-house scrap. Turnover has increased from £14.5million in 2009 to £15.039 million in 2010 with a forecast of £20.2million in 2011. Profit before tax and interest increased from 25% of sales in 2010 to 36% of sales up to March 2011.

Company E tracks improvements in customer complaints, results of customer audits and internal audits. Gaining accreditation in industry standard was the main KPI focus and has since been achieved. The company saw a fall in turnover in to £536million in 2010 from £581million in 2009 and a similar result in gross profits from £19.85million in 2009 to £18.715million in 2010. They attribute this fall to a change in product strategy.

Company F base their KPIs on project goals which could include capacity increase, plant availability, plant occupancy, RFT rate. They have completed a number of improvement projects resulting in improvements of 20-60%. Projects resulted in improvements worth £8.9million taking their turnover to £34million in 2010.

Company G was the only one not to have attempted implementation of approaches other than ISO9001:2008. Its main KPI is consumer complaints. This has seen an annual reduction over the last 16 years. Turnover has increased on an annual basis from £148.4million in 2008 to £222.4million to January 2011. Profit before tax and interest has also increased from £21.3million to £31.6million in the same period. This improvement was attributed to a new sales team and investment in new plant.

Company H uses monthly audits which they term Internal Critical Compliance and Overall efficiencies to track improvements. They have seen overall improvements.

Company I employ a project approach to improvements each with their own KPIs. Overall they measure scrap rate as a percentage of cost and the percentage of non conformance. They have seen an improvement through the project based approach both financially and operationally. Turnover has increased from \$486million to \$760million to March 2011.

## **Conclusions**

This paper presented the preliminary results of research carried out to look at the impact of approaches to continuous improvement on financial and manufacturing performance of Scottish manufacturing companies. The companies taking part were predominately part of multinational groups. This is consistent with the findings of MacBryde (2009) who found a lack of entrepreneurial organisations in Scotland.

In conclusion, of the approaches to continuous improvement, Lean manufacturing is the most popular with eight out of the nine companies choosing to adopt this approach. However, not all companies implemented this in full, with only three companies fully utilising all the techniques within this approach. Most companies did not go beyond 5S or TPM in their implementation. One of the main benefits of implementing lean seemed to be increased

employee motivation and satisfaction. This is consistent with findings in literature on lean manufacturing (Feld, 2001).

ISO9001:2008 was seen as a fundamental and necessary requirement to do business. However, companies did use the results of audits, internal and external, as indicators of performance.

Only two companies taking part carried on to implement Six Sigma and only one has started an implementation of Lean Six Sigma. Both these companies are mature multinational companies. Interestingly both these companies use a project approach to improvements.

Of the companies which claim to measure quality costs, although it appeared to be a measure of failure costs only, there was a significant reduction.

In terms of budgeting for implementation of the approaches, no companies were able to quantify fully the costs of implementing and maintaining the systems or approaches. Most stated that any implementation was part of their operational costs.

Financially the companies taking part were in a strong position, with seven out of the nine experiencing growth over the last few years.

All but two of the companies saw improved financial performance with regards to turnover. One which did not see an increase in turnover attributed this to the economic recession as projects were still yielding improved results in operating performance. The other attributed it to a change in strategy.

Further work has to be carried out to confirm and explore more fully the findings to date.

## **References**

Antony J, Reflective Practice. Six Sigma v Lean. Some perspectives from leading academics and practitioners. *International Journal of Productivity and Performance Management*. Vol 60 No2 2011 pp185-190.

Bendell T. 2006. A review and comparison of Six Sigma and the lean organizations. *The TQM Magazine*. Vol. 18 No. 3. pp. 255-62.

Feld, W.M (2001). *Lean Manufacturing: Tools, Techniques, and How To Use Them*. Washington, D.C: CRC Press.

Ho KMS, 2010, Integrating Lean TQM model for sustainable development, *The TQM Journal*, Vol 22 No. 6 2010, pp 583-593

King I, Mapping British Business and Scottish Manufacturing, *Times*, April 2014

Kumar M. and Antony J. 2008. Comparing the quality management practices in UK SMEs. *Industrial Management & Data Systems*. Vol. 108 No. 9. pp. 1153-1166

Levesy F. (2006). *Defining High Value Manufacturing*. University of Cambridge Institute for Manufacturing. Cambridge.

MacBryde J. 2009. *Manufacturing in Scotland*, SIOM Research Paper Series 004, 15 May 2009.

Nothaleerak P, Hendry L, Exploring the six sigma phenomenon using multiple case study evidence, *International Journal of Operations and Production Management*, Vol 28, No. 3, 2008, pp2279-303

Naslund D, 2008. Lean, Six Sigma and Lean Six Sigma: fads or real process improvement methods? *Business Process Management Journal*, Vol 14, No.3, pp269-287.

Ohno T, 1988, *Toyota Production System*, Productivity Press, Portland OR.

Pepper M. P. J. and Spedding T. A. 2010. The evolution of lean Six Sigma. *International Journal of Quality & Reliability Management*. Vol. 27 No. 2, pp. 138-155.

Scottish Executive, 2004. Report into advisory groups in Scottish Manufacturing.

Womack JP and Jones DT, 2003, *Lean Thinking*, Simon and Schuster, New York.

Womack, James P.; Daniel T. Jones, and Daniel Roos (1990). *The Machine That Changed the World*.

**GENERIC MEDICINES NON-ADOPTION:  
INVESTIGATING THE PERCEPTIONS AND ATTITUDES OF  
CUSTOMERS AND THE ROLE OF HEALTH PROFESSIONALS'  
SERVICE NETWORK**

Fabio Cassia  
University of Bergamo  
Italy  
*fabio.cassia@unibg.it*

Nicola Cobelli  
University of Verona  
Italy  
*nicola.cobelli@univr.it*

Liz Gill  
The University of Sydney  
Australia  
*lizzgill@hotmail.com.au*

**Abstract**

Although generic medicines can be beneficial to patients and the healthcare system thanks to the considerably lower costs, in Italy the market penetration of these products is lower than in other European countries. Only a few partial studies have been conducted to investigate the reasons of such a low penetration rate. A lack of the information given to patients about these products emerged from these studies.

The purpose of this paper is to give a further contribution to this stream of research by investigating the motivations behind Italian patients' resistance to buy generic medicines instead of the branded ones. More specifically the (potential) influence of health professionals' information and advice in changing customers' attitudes towards generic medicines and their behavior is studied.

In order to collect empirical evidence, a survey was conducted among a sample of Italian patients who have not adopted generics so far. 95 questionnaires were collected and analyzed, highlighting that interviewees tend to overestimate generics' disadvantages and to underestimate generics' benefits. Moderator effects of patients' age and education are identified, as well. More interestingly the findings demonstrate the potential contribution that general practitioners could give to support generic medicines' adoption. The results will be discussed and practical implications will be derived.



## **1. Generic medicines: A first reference framework and research purpose**

Abating health expense is now one of the common targets of the majority of Western countries and while the ultimate end of every health system is to safeguard public health, cutback is today an absolute necessity (Al Ameri et al., 2011). One of the possible available ways to pursue this target is to enlarge the market of generic medicines (Woodroffe et al., 2005). This is an advantageous and relatively safe path for Nations to pursue because it permits lower expenses while guaranteeing unchanged health security and therapeutic effectiveness for patients (Kimmer and Pelegrini, 2011).

Generics or equivalent products are those drugs which do not have an invented name (registered brand) but which are marketed under the name of their active ingredient. Generics are chemically equivalent to brand-name medicines and can only be manufactured when the patent covering the brand-name drug has expired (Kanavos et al., 2005). They can also be over-the-counter, freely purchasable, or prescription drugs. In this latter case a doctor's prescription is necessary, just as it is for the corresponding medicinal specialty (Godman et al., 2005). The patent for a drug lasts 20 years and acts to permit to recover the costs incurred for research.

Starting in 2000, in Italy, new regulations have attempted to suggest procedures suited to favor greater diffusion of generics but these efforts have encountered resistance both from patients, fearful of losing the therapeutic benefit they attribute to the brand-name drug, and from physicians themselves, whose understanding in the field of pharmaceuticals comes largely from the informative efforts the drug manufacturing companies extend for their own products during the patent protection period.

In Italy generics are defined by Conversion Law No. 425 dated August 8<sup>th</sup>, 1996, a coordinated text of Decree Law No. 323 dated June 20<sup>th</sup>, 1996, as medicines based on one or more active ingredients, manufactured industrially, not protected by patents or supplementary protection certificate (SPC), identified by the common international name of the active ingredient. Recently these drugs have been redefined as equivalent medicines (Law 149 dated July 26<sup>th</sup>, 2005). The same regulation has also envisioned the obligation for pharmacists to notify patients of the possibility of replacing the drug prescribed by their physician with an equivalent drug at a lower price.

According to the regulation the generic must be "bio-equivalent" to the registered medicinal specialty meaning it must have the same active ingredient present in the same dose, the same pharmaceutical form, the same way of administration and the same therapeutic indications. For these characteristics the generic drug is safe and effective just as was demonstrated by the company that held the patent for the medicinal specialty. Bio-equivalence is a fundamental principle because it certifies that the two medicines, that with registered brand and the generic, have the same qualitative and quantitative therapeutic performance. It is not therefore sufficient that the dose of active ingredient contained in the drug be equal, but many other parameters must also be equal such as therapeutic effectiveness, power of action, time of appearance of the effect and its duration, side effects and their impact.

Certain characteristics of generics may differ from those of brand-name drugs such as, for example, the shape of the grooves (in case of a pill), the release mechanisms, packaging and expiration times. It is also not necessary that they have the same excipients (including dyes, flavoring and preservatives): excipients may in fact be different and cause different absorption for the drug.

When a generic gets to the drugstore this means that the Ministry of Health has already ascertained that its performance is equivalent to that of the reference medicine. In addition, the documentation that the companies manufacturing the generic must submit for the purpose of achieving an authorization to market a generic is less voluminous and complex compared

to the documentation required to support an application for a new drug. This is because the characteristics of the product are already known and that what must be demonstrated is only the equivalence of the generic with the brand-name drug that it comes from.

It has been demonstrated that generics lead to substantial savings both to the citizens and to the National Health Service (Chong et al., 2011). Law No. 149 dated July 26<sup>th</sup>, 2005 sets forth, in fact, that the price of a generic must be at least 20% lower than the price of the registered reference specialty. The company patents the active ingredient and thereby acquires the right to market it exclusively for the time period held to be necessary so that the company can recover the costs of the investment incurred to perfect the new medicine. When the patent protecting the active ingredient expires the medicines that contain it may be manufactured and sold even by other pharmaceutical companies. In this case, since there are no costs for research to recover, the price of the medicine can be lower. In case of medicines for which the patent has already expired and for which corresponding generics are already on the market the law states that the pharmacist must inform the citizens of the possibility of substituting the medicine prescribed by their physician with the corresponding generic, when available on the market, and also permits the pharmacist himself to replace the medicine prescribed by the physician with the corresponding generic. This pharmacist's right is only invalidated when the physician puts the wording "not subject to substitution" on the prescription. Citizens are free to refuse to accept the substitution proposed by the pharmacist: in this case the price difference between the prescribed medicine and the corresponding generic will be paid for by the patient.

In recent years, drugstores have supported diffusion of generics because, as was stated earlier, these drugs are a suitable means to generate savings for citizens or for the National Health Service (Babar et al., 2010). It is also the task of pharmacists to inform citizens regarding the effectiveness and safety of generics, reassuring them when they are puzzled by the presence of different colored packaging or when they hear judgments by persons who do not like these drugs and try to diminish their value, try to make them seem to be second rate drugs, unsafe, uncontrolled by the health authorities and not as efficient as the brand-name drug.

The quality, safety and effectiveness of generics destined to be marketed in the European Union Nations are guaranteed by the Community Code regarding medicines for human use enacted in Italy by Legislative Decree No. 219 dated April 24<sup>th</sup>, 2006. The same Code ensures safeguarding of Public Health.

According to these regulations, a generic achieves authorization to be marketed when it meets the following conditions:

- An original reference medicine must exist, already approved by an EU Regulatory Authority for at least 8 years on the basis of a complete dossier; the medicine cannot in any case be marketed until 10 years have elapsed from issue of the initial authorization for the original medicine.
- SPC (summary of product characteristics) and sheet describing the generic must be harmonized with those of the reference medicine.
- The manufacturer must document in detail the chemical formula, manufacture process and quality control measures.
- The holder must guarantee that the raw materials and the finished product meet the specifications set by European pharmacopoeia when these have been set out.
- The holder must demonstrate that the generic maintains the stability specified by the expiration date before the medicine is put on sale. Once it is on the market the manufacturer must supervise the stability of the medicine. He must also demonstrate that the container and the seal system do not interact with the drug. The holders of

sterile medicines must present sterility data that demonstrates the microbiological wholesomeness of the products.

- The holder must give a detailed description of the equipment used to manufacture, package and inspect the medicine and must subsequently certify that he works according to the principles and guidelines of good manufacturing practice. Compliance with Good Manufacturing Practice (GMP) is certified by authorization decree given to the manufacture plant.

According to the provisions of Decree Law dated April 24<sup>th</sup>, 2006, No. 219 the quality of medicines is also monitored after they are marketed by the AIFA (Italian Drug Agency) which sets an annual inspection schedule for the compositions of the medicines with analysis performed by the Higher Health Institute (ISS, Istituto Superiore di Sanità).

The annual inspection schedule is originated from problems which arise at the community level, notice of defects, notice of adverse reactions or of little efficiency. The ISS, in line with the European policy and following opening of the market to generics, has decided to direct the annual inspection schedule towards quality check. The assessments that the ISS performs on generics are the same as it performs on all medicines.

A study, conducted by Datamonitor, shows that the Italian generics market had total revenue of \$772.9 million in 2009, representing a compound annual growth rate (CAGR) of 9.5% for the period between 2005-2009 (Datamonitor, 2010). The ethical segment was the market's most important in 2009, with total revenue of \$762.5 million, equivalent to 98.7% of the market's overall value.

Italy's generic drug market is relatively small in comparison with the markets in France, the United Kingdom, and, above all, Germany. Italy accounts for 2.2% of the European generics market value, while Germany accounts for a further 33.3% of the European market.

Understanding the most important reasons behind this large generics' non-adoption in Italy is therefore particularly relevant. A previous study conducted by Babar et al. (2010) in Australia demonstrated that many consumers have misconceptions regarding generic medicines. Moreover the advice by doctors and pharmacists emerge as fundamental to influence patients' attitudes and behavior (Datamonitor, 2010).

Drawing on these results, the purpose of this pilot study is to investigate Italian patients' perceptions of and attitudes towards generic medicines and to study the role of health professionals (general practitioners, pharmacists and specialist healthcare professional) in supporting generics' adoption

## **2. Methodology and data analysis**

A survey was conducted in May-June 2011. 6 pharmacies were invited to participate in the study. The interviewees were consumers visiting the selected pharmacies. Data were collected from Monday to Friday between 9.30 am and 4 pm. The data collector was a research associate at the University of Verona. A questionnaire was developed for the interview, based (whenever it was possible) on that used by Babar et al. (2010) in their study. In particular the questionnaire included 24 questions about patients' attitude toward generics, information source about generic medicines and patients' demographics.

A total of 134 questionnaires were collected from people who do not use generics. It should be remarked that only consumers with knowledge about generic medicines were included in the analysis. As 39 interviewees reported to have no knowledge about generics, the final sample was composed by 95 people. Data were analyzed through SPSS.

The demographics of respondents are summarized in table I. Participants are evenly distributed between males and females. About half of them are older than 55 years, and average age is 53.3 years. As regards education, 60% of the interviewees hold a high school degree or a university degree.

<b>Characteristic</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>		
Male	47	49.5%
Female	48	50.5%
<b>Age (avg. 53.3 years)</b>		
< 36	15	15.8%
36-45	21	22.1%
46-55	12	12.6%
56-75	27	28.5%
76+	20	21.0%
<b>Education</b>		
Primary School	12	12.6%
Secondary School	26	27.4%
High School	36	37.9%
University	21	22.1%

Table I: Sample demographics.

Interviewees were first of all asked how they got knowledge about the existence of generic medicines. The vast majority of the respondents (n=69) mentioned the pharmacist as their first information source regarding generics, followed by the Internet (n=31), friends and relatives (n=17) and “after an hospitalization” (n=4). No one indicated their doctor (general practitioner) or another healthcare professional as their first information source on this topic (Fig. 1).

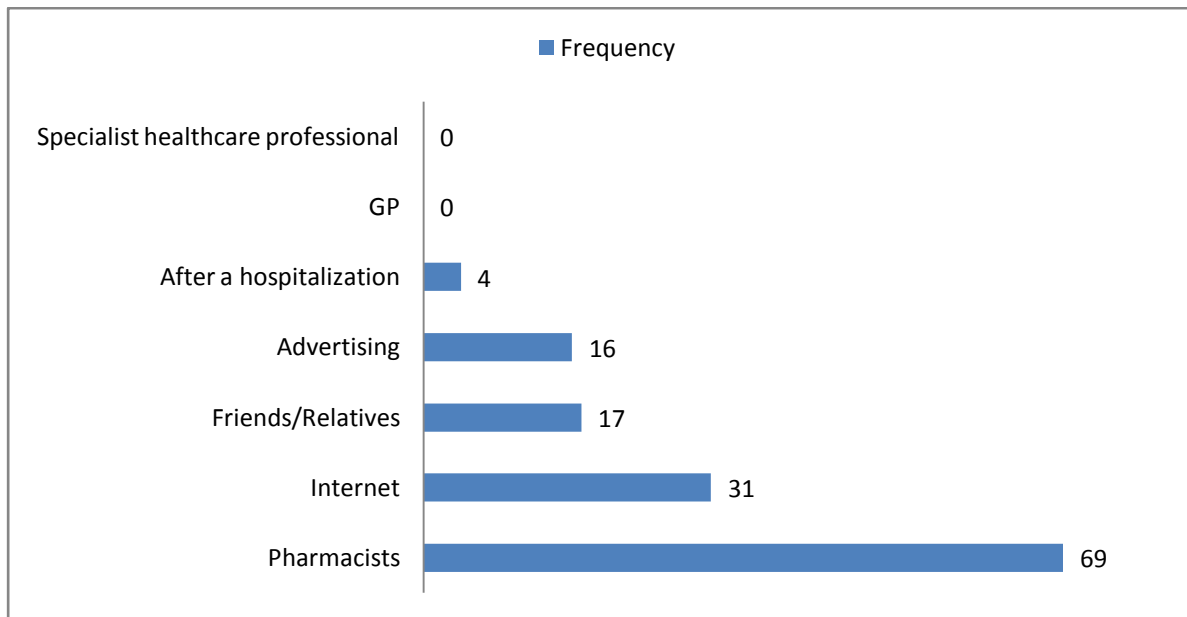


Fig. 1: Information source about generic medicines (more than one answer allowed).

To investigate respondents' **perceptions** about generic medicines (and hence to explore the main reasons for generics' non-adoption), respondents were asked six questions which measure three perceived attributes: 1. Safety and effectiveness, 2. Economic advantage for the users, 3. Potential confusion. All questions were measured through 5-point Likert scales (completely agree – completely disagree). Results are shown in Table II.

Data reveal that respondents think that buying generic medicine would imply for them a high level of economic advantage. On the other hand, the perceived level of generics' safety and effectiveness is much lower than the level of the economic advantage, demonstrating that interviewees are concerned over safety (for example, side effects) and effectiveness. An intermediate level of concern is also related to the potential confusion arousing from the packaging and the name of the generic medicines. More interestingly, the results underline significant interactions with the respondent's age, indicating that older people tend to underestimate generics' benefits (generics are less safe and allow lower economic advantages) and to overestimate potential confusion. On the contrary the respondent's level of education significantly and positively interacts with generic benefits (generics are safer and allow greater economic advantages for respondents with a higher level of education) and negatively with perceived potential confusion (the risk of confusion is lower for people with a higher level of education).

Statement	Rating (1-5) completely agree – completely disagree	Correlation with the respondent's age	Correlation with the respondent's level of education
<u>1. Safety and effectiveness</u>			
- Generic medicines are safe	2.81	-0.325 (p<0.001)	0.216 (p=0.025)
- Generic medicines are as effective as brand medicines	2.79	-0.345 (p<0.001)	0.241 (p=0.019)
<u>2. Economic advantage for the users</u>			
- Generic medicines are more affordable	4.45	-0.241 (p=0.018)	0.231 (p=0.025)
- Buying generic medicines would allow me to save money	4.45	-0.208 (p=0.043)	0.263 (p=0.010)
<u>3. Potential confusion</u>			
-The differences in the packaging of generic medicines as compared to brand medicines could create confusion when I take the medicine	2.59	0.622 (p<0.000)	-0.449 (p<0.000)
-The difference in the name of generic medicines as compared to the one of brand medicines could create confusion when I take the medicine	2.59	0.645 (p<0.000)	-0.483 (p<0.000)

Table II: Attitudes towards generic medicines

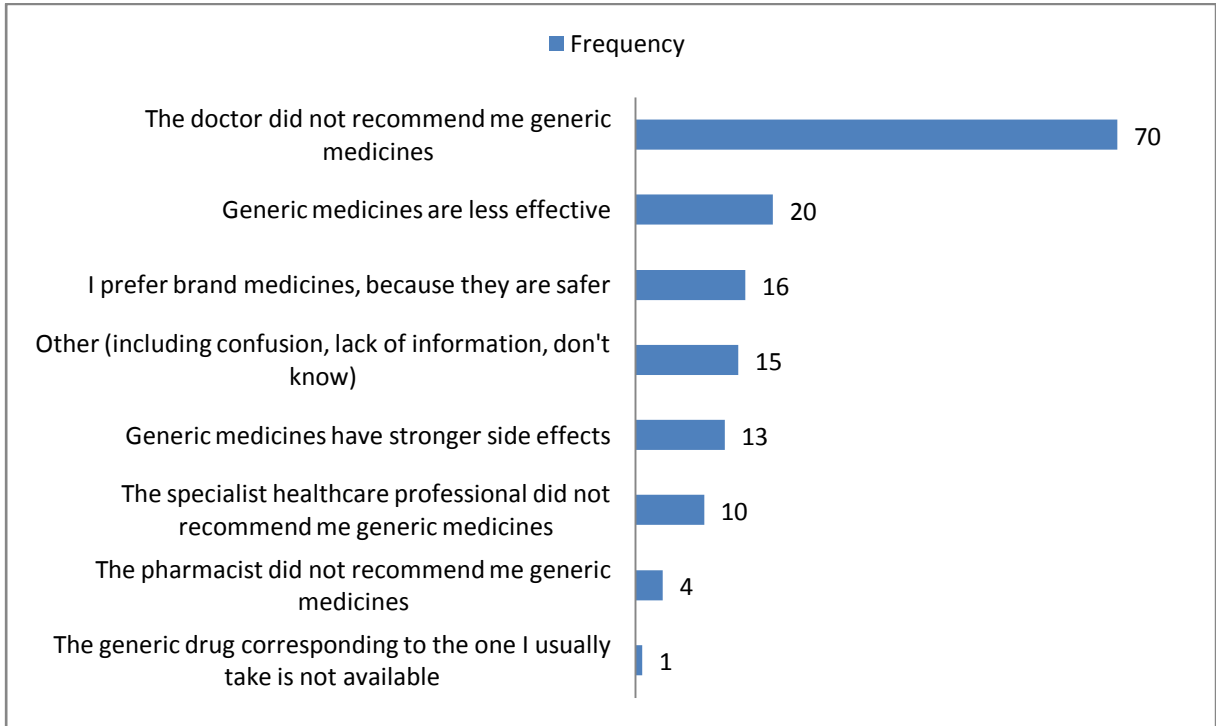


Fig. 2: Motivations for generics' non-adoption (more than one answer allowed).

To gain a deeper understanding of participants' **attitudes**, interviewees were invited to indicate explicitly the most important reasons for generics' non-adoption (Fig. 2). Most of

respondents (n=70) stated that they did not adopt generic medicines because their doctor did not recommend them explicitly. Lower effectiveness (n=20), lower degree of safety (n=16) and perception of higher side effects (n=13) emerge as other important motivations for non-adoption.

Additional data were collected to assess the specific potential **role of several healthcare professionals** (including general practitioners; pharmacists; other professionals) in facilitating the adoption of generic medicines. In particular, the following issues were investigated:

- the frequency of the interactions between the patient and the healthcare professional;
- whether the healthcare professional has ever recommended to the patient the adoption of generic medicines;
- whether participants would follow the healthcare professional's advice to adopt generic medicines (in the case that the healthcare professional had not recommended generic medicines so far).

Table III summarizes the findings. The results show that patients have a high frequency of interaction with their general practitioner (equal to or higher than once a month for 54.7% of participants) and almost all of them would trust their general practitioner's recommendation to use generics. Unfortunately only 18.9% of interviewees received such a recommendation from their general practitioner. On the contrary the findings emphasize that more than 80% of patients were advised by their pharmacist to adopt generics. Finally specialist healthcare professional have a minor role because they interact with patients with a low frequency.

	<b>General practitioner</b>	<b>Pharmacist</b>	<b>Specialist healthcare professional</b>
<b>Frequency of interaction</b>			
Never	0	0	3 (3.2%)
At least once a week	2 (2.1%)	6 (6.3%)	0
At least once every 2 weeks	15 (15.8%)	20 (21.1%)	0
At least once every month	35 (36.8%)	34 (35.8%)	0
At least once every 3 months	27 (28.4%)	25 (26.3%)	3 (3.2%)
At least once every 6 months	9 (9.5%)	6 (6.3%)	17 (17.9%)
Once a year or less frequently	7 (7.4%)	4 (4.2%)	72 (75.7%)
Has this healthcare professional <b>ever recommended</b> to you the use of generic medicines?			
-Yes	1 (1.1%)	77 (81.1%)	12 (12.6%)
-No	94 (98.9%)	18 (18.9%)	83 (87.4%)
If No: If the healthcare professional recommended to me to substitute a brand medicine with a generic medicine, <b>I would accept</b> (1-5: completely agree – completely disagree)	4.38	2.78	3.31

Table III: The impact of general practitioners, pharmacists and specialist healthcare professional on patients' attitudes and generics' adoption.

By analyzing correlations among variables, some other evidences about the role of healthcare professionals emerged. In particular, the results highlighted a negative correlation between patients' perception of potential confusion arousing from generics' packaging and name and their frequency of interaction with general practitioners ( $r = -0.465$ ,  $p < 0.000$ ) and with pharmacists ( $r = -0.349$ ,  $p < 0.000$ ). This means that both pharmacists and general practitioners can play a role of reassurance, by reducing patients' concerns about potential confusion when taking generic medicines.

### **3. Discussion and proposed measures**

The purpose of this study was to shed light on the reasons behind generic medicines non-adoption in Italy. The findings of the research on a sample of generics' non-users demonstrate the presence of significant misconceptions about generics' characteristics and benefits. In particular interviewees show doubts about generics' safety and effectiveness, which are not compensated by generics' lower prices. Moreover respondents were concerned about potential confusion when taking generics.

It is therefore fundamental to understand how healthcare professionals are able to reduce these misconceptions and informative gaps. The results show that the vast majority of respondents reported that pharmacists have recommended them to use generics. Given that respondents haven't adopted generics so far, we can conclude that pharmacists alone are not able to convince these people to change their attitudes and behavior.

More interestingly, many participants reported that their doctor (general practitioners) has never recommended to them the use of generics. Nonetheless interviewees are more likely to follow general practitioner's recommendation than pharmacist's recommendation (4.38 vs. 2.78 on a 5-point Likert scale). Therefore a direct advice of the general practitioners to their patients seems extremely valuable to change their attitudes and behavior. By taking the health professionals' service network perspective, the results of this study can be interpreted as a call for a stronger coordination between general practitioners, pharmacists, and other health professionals). As a matter of fact, if a consistent message about generics is communicated to the patient by both the general practitioners and the pharmacists, the effects may be emphasized.

Further reflections emerged from the study. In the first place, it was found that patients have scarce understanding of generic drugs. According to the testimony of those who were interviewed, the main source of information regarding generics is basically the pharmacist, whereas their general practitioner has a marginal role, such as also specialist physicians.

This indicates the existence of reticence or, perhaps, superficiality by doctors when prescribing drugs to patients. This situation has already been demonstrated in other Countries, as shown by research carried out in Europe (Sermet et al., 2008; Tsiantou et al., 2009) and in the United States (Liow, 2009; Shrank et al., 2011).

For the purpose of fostering diffusion of generics it would be expedient to pursue information campaigns aimed at eliminating prejudice by physicians regarding drugs different from brand-name drugs. In addition, the manufacturers of generics should give their utmost attention to selecting the sources of active ingredients in order to exclude any hypothesis of a reduction in the quality level of products. Public institutions (in particular the AIFA for assessment and management aspects, the ISS for all necessary checks and the Ministry of Health for general and regulatory directions) already perform their functions of safeguarding public health and this means that generics can be considered as offering the utmost in safety. Diffusion of



generics is consequently an important target for those who want to safeguard health but requires all the persons involved to take on their responsibilities.

The confidence that is placed in a product, in fact, depends on good communication/information coming from the doctors and the pharmacists. Field research has shown, in this regard, that consumers continue to prefer brand-name drugs even if they are more costly because they are, in their opinion, safer and more effective. For many patients the generic is a risky product, in spite of the information that the pharmacist is required to communicate and in spite of the fact that equivalent drugs have been present on the market for many years. It becomes difficult for consumers to go beyond what the doctor has prescribed and accept the idea that a drug under a different trade name and manufacturer can have the same therapeutic effects and ensure the same levels of safety as the generic.

From this standpoint prescription by the doctor of the active ingredient alone, accompanied by information regarding the fact that it is the active ingredient that generates the pharmacological characteristics of the medicine, could improve patient compliance and overcome their resistance towards equivalent products. In fact, not even the fact that it is a pharmacist who recommends substitution leads to an attitude of greater confidence.

The key to this scenario, which appears rather negative, would seem to be found in the general practitioner or specialist physician. In fact 81.5% of those interviewed declared that if the substitute drug was proposed by their general practitioner it would be accepted, while 18.9% would not. This lets us foresee the possibility of a change in attitude of patients if the medical class were truly fully involved in informing the patient. This is why we believe that any promotional action directed at patients which does not include more information to and training of physicians would be, if not useless, at the very least insufficient.

Therefore it is to be hoped that AIFA, the Ministry of Health and the Higher Institute of Health can collaborate in order to motivate and/or make physicians more aware, perhaps by strengthening the compulsory training that physicians are required to undergo as part of the national program for constant training of health workers, given that the medical class appears as the best channel for communicating with consumer patients.

These aspects, which still represent a limit to diffusion of equivalent drugs, could be if not solved at least improved if legal provisions, in addition to offering decisional freedom for accepting or rejecting substitution of “brand-name” drugs with the corresponding “equivalent” drugs, also gave citizens the informative tools to permit them to make a thought-out decision and answer their legitimate doubts.

#### **4. Limits to the research and new study possibilities**

The investigation presented in this paper, as has already been explained, was of an exploratory nature: its ultimate aim was to investigate the attitudes of patients who are potential purchasers of generics.

The main limit to the study is undoubtedly the size of the sample, too small to permit results to be generalized.

In addition, the geographic area where the study was carried out was that of the Province of Verona. Once again any considerations made at the end of the paper need to be examined before they can be considered fully reliable.

But we believe, in spite of these limits, that the effort that was extended led to detection of several critical points of particular importance and we hope that further research will confirm and enlarge upon what emerged from this study.

## References

- Al Ameri, MN, Whittaker, C, Tucker, A, Yaqoob, M, Johnston, A, (2011), "A survey to determine the views of renal transplant patients on generic substitution in the UK", *Transplant International*, 1-10.
- Babar, ZU, Grover, P, Stewart, J, Hogg, M, Short, L, Seo, HG, Rew, A, (2010), "Evaluating pharmacists' views, knowledge, and perception regarding generic medicines in New Zealand", *Research in Social & Administrative* (ahead of print).
- Chong, CP, March, G, Clark, A, Gilbert, A, Hassali, MA, Bahari, MB, (2011), "A nationwide study on generic medicines substitution practices of Australian community pharmacists and patient acceptance", *Health Policy*, 99, 2, 139-148.
- Datamonitor, *Generics in Italy*, 2010 (www.datmonitor.com, 2011).
- Godman, B, Sakshaug, S, Berg, C, Wettermark, B, Haycox, A, (2011), "Combination of prescribing restrictions and policies to engineer low prices to reduce reimbursement costs", *Expert Review Pharmacoeconomics & Outcomes Research*, 11, 1, 121-9.
- Kanavos, P, Costa-Font, J, Seeley, E, (2008), "Competition in off-patent drug markets: Issues, regulation and evidence", *Economic Policy*, 23, 55, 499-544.
- Kimmer, K, Pellegrini, C., (2009), "Expenditures for public health: assessing historical and prospective trends", *American Journal of Public Health*, 99, 10, 1780-1791.
- Liow, K, (2009), "Understanding patients' perspective in the use of generic antiepileptic drugs: compelling lessons for physicians to improve physician/patient communication", *BiomedCentral Neurology*, 9, 1, 9-11.
- Schiffman, LG, Kanuk, LL, (2008), *Consumer behavior*, Harlow, Prentice Hall.
- Sermet, C, Andrieu, V, Godman, B, Van Ganse, E, Haycox, A, Reynier, JP, (2008), "Ongoing pharmaceutical reforms in France: implications for key stakeholder groups", *Applied Health Economics and Health Policy*, 8, 1, 7-24.
- Sermet, C, Andrieu, V, Godman, B, Van Ganse, E, Haycox, A, Reynier, JP, (2010), "Ongoing pharmaceutical reforms in France: implications for key stakeholder groups", *Applied Health Economics and Health Policy*, 8, 1, 7-24.
- Shrank, WH, Liberman, JN, Fischer, MA, Girdish, C, Brennan, TA, Choudhry NK, (2011), "Physician perceptions about generic drugs", *The Annals of Pharmacotherapy*, 45, 1, 31-38.
- Shrank, WH, Liberman, JN, Fischer, MA, Girdish, C, Brennan, TA, Choudhry, NK, (2011), "Physician perceptions about generic drugs", *The Annals of Pharmacotherapy*, 45, 1, 31-38.
- Simmenroth-Nayda, A, Hummers-Preadier, E, Ledig, T, Jansen, RD, Niebling, W, Bjerre, LM, Kochen, MM, Himmel, W, (2006), "Prescription of generic drugs in general practice. Results of a survey of general practitioners", *Medical Klinik*, 101, 9, 705-710.
- Suh, DC, Schondelmeyer, SW, Manning, WG, Hadsall, RS, Nyman, JA, (1999), "Price trends before and after patent expiration in the pharmaceutical industry", *Journal of Research in Pharmaceutical Economics*, 9, 2, 17-32.
- Tsiantou, V, Zavras, D, Kousolakou, H, Geitona, M, Kyriopoulos, J, (2009), "Generic medicines: Greek physicians' perceptions and prescribing practices", *Journal of Clinical Pharmacy and Therapeutics*, 34, 5, 547-554.

Tsiantou, V, Zavras, D, Kousolakou, H, Geitona, M, Kyriopoulos, J, (2009), “Generic medicines: Greek physicians’ perceptions and prescribing practices”, *Journal of Clinical Pharmacy and Therapeutics*, 34, 5, 547-554.

Tu, HT, Lauer, JR, (2008) “Word of mouth and physician referrals still drive health care provider choice”, *Research Brief*, 9, 1-8.

Woodroffe, R, Yao, GL, Meads, C, Bayliss, S, Ready, A, Raftery, J, Taylor, RS, (2005), “Clinical and cost-effectiveness of newer immunosuppressive regimens in renal transplantation: a systematic review and modelling study”, *Health Technology Assessment*, 9, 21, 1-179.

## 14th TOULON – VERONA CONFERENCE

### Customers' perception of banking services' quality: an empirical evidence

MAURO CAVALLONE – MICHELE MODINA

#### ABSTRACT

The level of service and competence are the key criteria of the banking offer where the long-term content of customer relationship is a critical factor of every bank's success. Due to the financial crisis, customers have shown increasing disaffection regarding the quality of banking services. This element constitutes a fundamental aspect since the competition between banks will turn from the activities to the defence of the customer base.

In this context, the paper investigates two different clusters of Italian banks in order to verify if and to what extent they promote or guarantee a strong relationship with customers. Drawing on available literature, the paper aims to verify customers' perceptions and experiences relating to banks that have merged into another (larger) bank or still operate on a stand-alone basis. In this sense, the research project tries to investigate which of the bank clusters is considered more as "my bank" by customers and why. The data were collected through different focus groups and during one-to-one interviews. The results highlight important differences in the two clusters of customers. Results are discussed and managerial implications are drawn.

**Keywords:** Banking services; customer satisfaction; customer relationship.

\* Mauro Cavallone, Researcher/Adjunct Professor in International Marketing, University of Bergamo, Italy; [mauro.cavallone@unibg.it](mailto:mauro.cavallone@unibg.it)

\*\* Michele Modina, Associate Professor in Enterprise Management, University of Molise, Italy; [michele.modina@unimol.it](mailto:michele.modina@unimol.it)

## **1. INTRODUCTION**

In many countries, the majority of banks is characterized by a local dimension, making the importance of the relationship with customers perceivable on a local basis. However, the current concentration process in the banking sector has gradually reduced the number of local banks, leaving more space and market quota to banks of greater dimensions. At the same time, the financial crisis and new regulatory innovations have made the competition between banks even more critical. The morphological evolution has created a condition for which the position of local banks in the bank market appears risky (Berger et al., 2007). Moreover, the customer base has shown a greater disaffection with regard to the quality and trustworthiness of banking services. This latter element constitutes a fundamental aspect since the competition between banks will turn from the activities and products to the relationship with and the defence of the customer base. The business model will have to be re-thought. The level of service and competence will be the key criteria of the banking offer. Banks will have to strengthen the long-term content of customer relationship. Against such a background, it seems appropriate to investigate the banking services of different clusters of Italian banks in order to verify if and to what extent they promote or guarantee a strong relationship with their customers.

Starting from an analysis of the relationship between banks and customers, the contribution examines the standards of quality and characteristics of banking services more closely, observing service traits and changes following the cited metamorphosis. More specifically, the paper aims to verify customers' perceptions and experiences relating to banks that still operate on a stand-alone basis or have merged with another (larger) bank. In this sense, the research project tries to answer two main questions: a) Are customers of a stand-alone local bank more or less satisfied than customers of a larger bank? b) Is there an effective organizational structure capable of leveraging customer satisfaction and the quality of banking services?

This article proceeds as follows. First of all the relevant literature is reviewed. The methodology and results are then presented. Managerial implications are discussed and finally conclusions are drawn.

This article proceeds as follows: the next section reviews the relevant literature, while the empirical analysis section introduces methods and data collection and describes our empirical results. Managerial implications are later discussed. The final section concludes by discussing this paper's contributions, the limitations of the analysis, and future research directions.

## **2. LITERATURE REVIEW**

This section briefly reviews three strands of related literature involving: (1) a conceptual background between customer satisfaction, customer relationship and engagement; (2) customer relationship and customer satisfaction in banking services.

In recent years, the banking sector has been shaken by structural changes. The banks have reacted in different ways; the big financial institutions have moved into the direction of external growth both on a national and international scale, while local banks have tried to find the best strategy to maintain their competitive advantage.

The deregulation of the banking industry, the increasing competition of the market, the macroeconomic conditions and the impulse given by innovation and technology should have relegated local banks to a secondary role. These banks were considered unable to control their own destiny. In the new banking arena, local banks would have found it more difficult

to acquire and manage the customer base. Bigger banks would have maximized their financial, human and technological resources such as the CRM system design in order to choose the more profitable market segments to serve.

The recent economic crisis has changed the above-mentioned perception. As stated in a recent report of The Boston Consulting Group (2010), small and local banks have not lost any ground, but instead they have gained new market share. What have they done? They have leveraged their strengths such as the higher degree of person-to-person interaction with retail customers, the lower turnover of branch managers, the ability to give a rapid response to customers' questions and problems – and the support to SMEs and families in the lending segment of the market. One of the reasons for the different paths taken by local banks and large banks over time is probably related to the process of concentration. The effects of the M&A wave have produced some inefficiencies in the organizational structure determining a less intense relationship with customers and weakening the ability to solve customers' needs. Some large banks have noted the success of local banks and are trying to re-focus on the local factor. In this context, the designing of a new organizational system aims to improve the operating processes and to become closer to customers. Nevertheless it will not be easy to recover the gap.

#### *Customer satisfaction, customer relationship and engagement: a conceptual background*

Various authors (Bowden, 2009; Gustafsson, Johnson and Roos, 2005; Aldaigan and Buttle 2005) have examined the relationships between satisfaction, affectivity and customer retention. In particular, Bowden pointed out that satisfaction alone does not express the depth of the relationship as attested by the different degree of importance of the attributes in the relationship with new customers and with loyal customers. The concept of affectivity is expressed as an engagement in which the feelings of confidence, integrity, a sense of belonging and passion encapsulated within a logo rise above other technical attributes. Gustafsson et al. (2005) describe the difference between engagement and loyalty and, subsequently, explain the concepts of affective commitment and calculative commitment defining the former as “created through personal interaction, reciprocity, and trust” and the latter as “created through switching costs”. The same concepts are taken up by Cavallone (2009) who understands involvement both as awareness and as involvement. In this context, these factors become drivers that go beyond customer loyalty marketing. Aldaigan and Buttle (2005) investigate the reason why there is retention even in situations of customer discontent. Examining the banking market, they note that “banks had been reporting a high-level of customer dissatisfaction, yet also experiencing a high-level of customer retention”. They identify six drivers: three have positive connotations (organisational credibility, relational values, value congruency) and encourage the attachment dimension, while three (alienation, inertia, familiarity) move in the opposite direction.

#### *Customer relationship as the main driver of customer satisfaction in banking services*

Under their literature's review (among others, Levesque and McDougall, 1996; Winstantley, 1997; Lassar et al., 2000; Jamal and Naser, 2002; Manrai and Manrai, 2007), Arbore and Busacca (2009) provides evidence to identify the six drivers of customer satisfaction in retail banking: functional quality (reliability, speed, accuracy, security, functionality), relational quality (responsiveness, assurance, friendliness, courtesy, commitment, communication), convenience (opening hours, travel distance, queuing time, parking and ATM availability), economics (charges/interest rates, price-quality ratio, price fairness), tangibles (physical layout and facilities, décor and atmosphere of branch environment, size of customer space), problem-handling skills (capacity to avoid conflicts, efficient problem-solving, handling of complaints). Except for the controversial impact of the “tangibles” dimension, all the others are key factors affecting the customer satisfaction of banking customers. The ability of a

bank to handle these drivers allows the firm to increase its marketing efforts and its overall profitability.

However, research on customer satisfaction argues that the above-mentioned factors may affect overall satisfaction in a non-linear way. Kano (1984) was the first to formalize this intuition and create a model that pinpoints three categories of attributes: basic factors (that generate disaffection if they are not fulfilled), excitement factors (that foster satisfaction if delivered) and performance factors (that affect satisfaction and dissatisfaction in proportion to their level of fulfillment). Following the three-factor model, Arbore and Busacca confirm a non-linear and asymmetric relationship between attribute performances and overall customer satisfaction. For them reputation is a critical basic attribute, while the availability of a wide range of suitable investments and the technical quality of the informative materials are essential for increasing the customer satisfaction of more sophisticated consumers. But the most tremendous driver that affects both customer satisfaction and dissatisfaction are interpersonal relationships.

### **3. EMPIRICAL ANALYSIS**

#### *Methodology*

The field research has been conducted through a qualitative analysis that aims to base the first empirical verification on experience and obtain information.

Following Marbach's (2000) recommendations, the modality has been a customer focused research on clients belonging to two different clusters of banks (i.e. stand-alone banks, banks acquired by larger banks or merged banks). The elements analyzed have involved tangible aspects (i.e. economic conditions and product/service assortment) and intangible aspects (i.e. image, membership, consideration). The research proposes to highlight and describe a set of positive and negative factors that characterize the different groups of banking customers. In particular, the analysis of the main aspects of the relationship between customers and different banking clusters contributes towards addressing these questions: Which of the two bank clusters is considered by customers more as "my bank"? For banks acquired by larger banks as well as for stand-alone banks, is the customer still a major customer (in the same way and for the same reasons as in the ex-ante situation)?

A total of two focus groups and 15 one-to-one interviews were undertaken. Transcriptions were produced and the data analysed. The analysis of the material that came to light included both verbal and non-verbal aspects and was backed by the use of conversational analysis (Hutchby and Wooffit, 1998).

The comparison of the independent content analysis resulted in the following major themes: experience with the bank, a sense of belonging, customer satisfaction, comparison with the past. These themes have been examined through key elements such as habits and methods of using banking products and services, acquaintance, level of adhesion to the bank's proposals, level of affection and relationship, tangible and relational aspects.

The participants of the focuses were chosen by means of a random sampling of the current account holders at the two banks (merged or stand alone banks) on the basis of their willingness to participate in the research. The discussion groups, each of which lasted about 90 minutes, were introduced and presented by the authors of this paper and conducted and moderated by a psychologist adopting both an "open" and a "semi-structured" method according to the objectives that the research intended to achieve.

In particular, at the basis of the discussion outline (Trentini, 1995), there was a presentation

of the objectives that were expected from the meeting. The group discussion included moments of individual reflection involving the completion by the sample of a form with a semi-structured outline; the purpose of this was to be able to record in the most accurate way possible the opinions of the individual participants. The outline enriches and gives greater meaning to the results that emerged from the debate.

### *Results*

#### Preface

In correspondence with a common involvement in the matter in question, the two clusters of customers show different attitudes in relation to their bank of reference: the customers of “merged” banks are more polemic and aggressive while the customers of “stand alone” banks are more objective and calm. Their experiences with the bank also highlight differences.

The “merged” customers have an extremely negative and disillusioned outlook on the present. They have perceived substantial changes towards which they feel powerless. As a reaction to this, they demonstrate a significant idealization of the past. The breaking point is not identified immediately with the change of corporate trademark, although it is possible to hypothesise that it coincides with changes in the organisational structure. The “stand alone” cluster manages to conserve a more objective view of present-day reality, underlining more precisely the strong and weak points of the relationship with the bank. Generally, the view of the future with regard to the banking world is also a consequence of these attitudes: the “merged” customers see the chronicity of the negative aspects; the “stand alone” customers have a more optimistic and positive attitude, considering the disservices of the bank to be a consequence of the transition logic.

#### Habits and use of services

Both targets essentially use the basic services of the reference bank (current accounts, various investment products).

However, according to the experiences that we will analyse later, it is possible to perceive amongst the merged target an attitude of wariness that leads them to underline the need to approach the bank with a “mercenary” outlook: the interviewees of this group stated that they systematically use different banks on the hunt for the best offer. This attitude is decidedly less marked in the second target and is not always reflected in their behaviour.

#### Knowledge

None of the sample seems to have a particularly deep understanding of the bank or of its business. Both of the clusters demonstrate a low level involvement and interest in the indicators pinpointed for the understanding (organisation, offer, human resources, initiatives, cooperation), although for the “merged” customers this interest is even poorer. In fact, the relationship with the bank is implied as instrumental and as such does not provide for an in-depth reciprocal understanding.

#### Level of adhesion

With regard to the level of adhesion to offers, in general the two clusters make use of services that they have chosen and requested themselves. In fact, a feeling of diffidence deriving from past experience weighs heavily on bank proposals due to a perception of poor customer orientation and the bank manager’s accentuated tendency to look after the interests of the bank. However, it should be pointed out that a part of the “stand alone” cluster acknowledges that the managers of their banks, with whom they have usually set up a good personal relationship, show a certain degree of sincerity when making offers capable of satisfying the customers’ needs; the customers of “merged” banks, on the other hand, consider the bank



staff to be mere executors of the bank's interests alone.

The trademark of the bank (whether it has changed or remained the same) does not seem to influence the perception of trust which depends strongly on the relationship between the customer and the manager, where the personality of the latter plays an important role. The "merged" customers complain that they are unable to benefit from this dimension owing to the high level of staff turnover in the bank. The bank's promotion activity is considered by the customers of "merged" banks to be extremely "pushy" and, therefore, it is perceived negatively; on the other hand, the "stand alone" cluster finds it less invasive and, at times, even bordering on inertia.

#### Level of affection

The level of involvement and affection towards the bank appears on the whole to be quite contained. For both clusters, there is an instinctive and strong tendency to contrast the present with the past when, "the bank was the family bank and helped the family". In both groups a feeling of disillusionment can be detected towards the current value proposition of the bank. The customers of merged banks are significantly more pessimistic and hypercritical.

#### Level of relationship

With regard to the relationship with the bank, the perceptions of the two targets are different and reflect their overall attitudes. The "merged" cluster finds it difficult to form a concrete view of the bank as a person: the relationship is viewed as an entity connected to the commercial aspect, without any humanity, in which the personal element is missing (a consequence of the fact that the "merged" customer feels that the bank considers them more as a number than as a person). The "stand alone" cluster believes it has a stronger relationship with its bank, to which it is able to attribute human connotations and recognise the strong and weak points.

#### Comparison of some tangible aspects

The comparison of some tangible aspects (e.g. competence, handling of problems, clarity of the language, reliability of the offer) highlights some significant differences in the customers' experience. In particular, the experience of the "merged" cluster (in terms of competence and consulting ability) is characterised by a perception that is more positive confirming the trend to idealise the past. The perceptions of the "stand alone" target are predictably more positive.

Very wide differences are pinpointed with regard to the handling of problems/unexpected circumstances/complaints and the speed of the answers. Given the perception that the staff have very little freedom to act and that there is a lack of standardisation in the procedures, the customers of "merged banks" report a low level of satisfaction as far as these matters are concerned and, in general, regarding the bank's customer orientation. The clarity of the language shows a countertrend datum: the "merged" cluster acknowledges that perhaps, due to greater standardisation, the information received is clear and overall effective. For them, the managers of "merged banks" are obliged to adhere strictly to the regulations imposed by the head office which exercises a control over the quantity and the quality of the communications. In an even more pessimistic way, a second interpretation attributes this clarity to a need for protection with regard to a bank that easily imposes decisions on its customers.

### Comparison of some intangible aspects

A comparison of the relational indicators (welcome, kindness, proactivity, quality of personal relations, courtesy, confidentiality, trust) shows that the aspect for which there are greater differences between the two clusters is that concerning personal relations.

The change is marked by the presence/absence of personal relations: the “merged” cluster demonstrates greater suffering with regard to interpersonal relations due to a loss of contact with the manager who used to be in charge of the relations before the merger.

The question of trust is discriminating. The scores, which overall were low, are the result of the sense of disillusionment compared with the distant past as manifested by both clusters. The negativity of the “merged” customers is worsened by their feelings of suspicion and their experiences of poor customer orientation. The scores regarding the matter of “providing alternative solutions” and the “courtesy/ethicity” aspect, which were low overall, show how the customers perceive the bank as an institution that provides services (rather than assistance/consultancy) and is more careful of its own interests rather than those of the customers. These trends are more marked amongst the “merged” cluster.

## **4. DISCUSSION**

The study provides both theoretical and practical insights into the advantageousness for a bank to follow the more effective strategy for enhancing the relationship with its customers. The customers represent the main wealth of a bank, bearing in mind that the competition is active in trying to attract customers to increase their market quota. The results of the research show how interpersonal relationships are a key factor to success and, therefore, it provides clear indications of the fact that the bank management must pay attention to the quality of the people in charge of these relations.

The first point where action must be taken is the competence and capacity to provide consultation, the expectations of which are high for both clusters of customers and the solution requires specific training courses given to bank staff before they are introduced into the branches. A proper knowledge of the products/services offered by the bank represents a first “visiting card” for setting up a relation of trust with the customers. Both for the deposit and savings products and the investment products, a knowledge of what is being sold demonstrates competence to the customer and this will then be followed by trust and peace of mind with regard to the choices made.

A second fundamental element is linked to the capacity to solve problems, to handle unexpected circumstances and to reduce the time required for an answer. To the eyes of the customer, these aspects represent immediate elements for assessment; staff training and the formation of managerial and organisational skills are levers that the bank management must apply and maintain continuously. The presence of a strong interpersonal relationship represents a further element which should be invested in. When the customer feels that he is being acknowledged and taken into consideration, he perceives the advantages of maintaining relations with one bank rather than another. Also in this case, training on matters of interpersonal communication and on the centrality of the customer must represent a fundamental step. At the same time, when selecting new colleagues to work in close contact with the customers, the people in charge of the human resources office must look for and give preference to hetero-referred people, those who get on well with others in order to set up personal relationships on equal terms and to teach the ability to listen to customers’ expectations and requirements with the “one up one up” method.

If the competence and ability of the staff are fundamental drivers for establishing a

worthwhile and long-lasting relationship, the question of the staff's operating autonomy assumes particular importance in this context. For the bank management, selecting the quantity and type of delegations of responsibility is essential to increase the contact staff's capacity to answer customers' problems/complaints and to provide fast solutions. By so doing, the customer has an increased perception of the bank as an institution that is actually customer oriented and which provides assistance and consultancy and not only standard products/services. Excessive centralisation of the functions and a high level staff turnover (which, from the research, appears to be one of the most critical aspects of the relationship) do not lead in the direction required.

The courses and continuous training of staff are critical factors in defining the success of the personal relationship area, but they involve costs. However, the author believes that the training courses must be considered on one hand as a long-term investment (leading to competence and motivation of the bank's human resources) and, on the other hand, as a functional instrument for retaining the wealth of customers (which firstly has the effect of making the customers more loyal and, then, improves the economic performance of the bank).

## **5. CONCLUSIONS**

This study has measured the level of satisfaction of bank customers of two groups of banks. In particular, the customers of "merged banks" show strong criticism of their reference bank. The change in the organisational structure (more than the change of the trademark) has led to negative consequences for the tangible aspects and, above all, for the relational aspects of their dealings with the bank. Overall, the customers of "stand alone" banks seem to be less negative demonstrating that this category of banks, which is typically of a local dimension, has managed to maintain a more optimistic and positive relationship with its customers despite the changes, including those of an economic nature, that the banking industry has experienced. These feature indicate that there is a correlation between the long-term content of customer relationships and the bank structure. In this context, the network could foster the level of customer satisfaction and engagement and play a crucial role in improving the competitive advantage of its members.

Some limitations of this study should be underlined. First of all, the results may have been influenced by the setting in which the research was carried out (Italian banks). Therefore, attention should be paid when the results are generalized to contexts characterized by different levels of competition. Moreover, given the limited sample size and the qualitative nature of the analysis, a quantitative analysis will be necessary to extend the validity of the results.

This paper opens up several avenues of potential future research. First, there is the opportunity to seek out new data sources which permit the study of customers' perception of banking services' quality across various countries. Second, it seems useful to link customer satisfaction with research on economic performance within banking firms.

## REFERENCES

- Aldlaigan, A. and Buttle, F. (2005), "Beyond satisfaction: customer attachment to retail banks", *International Journal of Bank Marketing*, 23, pp. 349-359.
- Arbore, A. and Busacca, B. (2009), "Customer satisfaction and dissatisfaction in retail banking: Exploring the asymmetric impact of attribute performance", *Journal of Retailing and Consumer Services*, 16, pp. 271-280.
- Berger, A.N., Rosen, R.J. and Udell, G.F. (2007), "Does market size structure affect competition? The case of small business lending", *Journal of Banking & Finance*, 31, pp. 11-33.
- Bowden, Lay-Hwa J. (2009), "The Process of Customer Engagement: a conceptual framework", *Journal of Marketing Theory and Practice*, 17, pp. 63-74.
- Cavallone, M. (2009), "Tes marketing - The Extra Step to be effective in the market place", *MMA Marketing Management Association Annual Conference*, 18-20 March, Chicago, Proceedings Donald P. Roy and John Cherry, Editors.
- Gustafsson, A., Johnson, M.D. and Ross, I. (2005), "The Effects of Customer Satisfaction, Relationship Commitment Dimensions, and Triggers on Customer Retention", *Journal of Marketing*, 69, pp. 210-218.
- Hutchby, I. and Wooffit, R. (1998), *Conversational analysis*, Cambridge, Polity Press.
- Jamal, A. and Naser, K. (2002) "Customer satisfaction and retail banking: an assessment of some of the key antecedents of customer satisfaction in retail banking", *International Journal of Bank Marketing*, 20(4), pp. 146-160.
- Kano, N. (1984) "Attractive quality and must-be quality." *The Journal of the Japanese Society for Quality Control*, 14, pp 39-48.
- Lassar, W.M., Manolis, C., Winsor, R.D. (2000), "Service quality perspectives and satisfaction in private banking", *Journal of Services Marketing*, 14(3), pp. 244-271.
- Levesque, T. and McDougall, G.H. (1996), "Determinants of customer satisfaction in retail banking", *International Journal of Bank Marketing*, 14(7), pp. 12-20.
- Manrai, L.A., and Manrai, A.K. (2007), "A field study of customers' switching behaviour for bank services", *Journal of Retailing and Consumer Service*, 14(7), pp. 208-215.
- Marbach, G. (2000), *Ricerche per il marketing*, UTET, Torino.
- The Boston Consulting Group (2010), *Global Retail Banking – The Road to Excellence*, December.
- Trentini, G. (1995), *Manuale del colloquio e dell'intervista*, UTET, Torino.
- Winstanley, M. (1997), "What drives customer satisfaction in commercial banking." *Commercial Lending Review*, 12, pp. 36-42.

# THE CREATION OF SUSTAINABLE VALUE IN SMEs. A CASE STUDY

**Maria V. Ciasullo**

University of Salerno, Italy – mciasullo@unisa.it

**Orlando Troisi**

University of Salerno, Italy – troisiorlando@libero.it

## **Abstract**

**Purpose:** The paper studies the way in which a small-medium size enterprise (SME) in Campania (Italy) creates sustainability into its corporate strategy, the practices it puts in place and how its CS strategies reflect on accumulating and enhancing intangible assets.

**Methodology/Research limitations:** A qualitative case study methodology is used. The use of a single case study, as always, limits the generalizing of these findings.

**Findings:** Entrepreneurs' ethical beliefs and value systems play a fundamental role in shaping sustainable corporate strategy. Furthermore, the type of competitive strategy selected based on innovation, quality and responsibility emerges both in terms of well defined management procedures and supply network system as a whole in order to involve partners in the process of sustainable innovation. In this context, such value creation is extended to the sustainability of the intellectual capital.

**Research Implications:** The link between the creation of sustainable value and intangible assets is analyzed in depth with reference to SMEs.

**Practical Implications:** Entrepreneurs and managers can benefit from the study in order to build a network organization capable of achieving effective and sustainable development.

**Originality/value:** The proposed process of creation of sustainable value based on sharing and the co-creation of knowledge emerges fully in the case study analyzed. The study pivots on the issues of innovation and eco-sustainability in a context of drivers for CS and business ethics.

**Key words:** Corporate Sustainability, Intangible Assets, Value creation, Case study.

## **Introduction**

The debate on corporate behavior in a perspective of sustainable development has taken on new relevance recently. Public opinion ever sensitive and informed as to corporate behavior is showing a propensity to legitimize firms that are socially oriented and behave responsibly in terms of environmental impact. In this context, the responsibility required of a firm is none other than one of the effects of the interactive relationship that ever more extensive productive chains establish not only their consumers but also with the stakeholders who contribute in various ways to the firm's development. Enterprises are not indifferent to this point of view: in fact it would be rather difficult for a consumer who is environmentally sensitive with regard to specific social values, to accept products and styles of consumption that are not in line with their convictions. Clearly, companies interested in production value, based on the integration of voluntary social and environmental standards higher than those required by law, tend to prefer chains based on safety, traceability and strong partnerships with stakeholders, from suppliers to distributors to end customers. However, the issue remains mainly theoretical and often focused on the producer-supplier dyad (Perrini, Minoja 2010). Value consequently is the expression of the sense of producing and living within these confines, above all in the current socio-economic context, where the material performance of the product is disregarded in favor of the real or potential collaborative circuit that unites persons and desires towards a common aim. In this sense the firm creates value when its management is oriented towards sustainability. In our paper sustainability is meant in the sense of transparency in terms of

the reasons why a firm acts as it does; relationships are created and proposals are made and ideas accepted. In other words, sustainability is predominant both anterior to the manufacturing process and in terms of relational outcomes. An ethical and civic driving force is part of this scenario underpinned by reasons that are not merely altruistic or based on solidarity, but above all creative, in which principles and economic aims, cooperative dynamics, relations and public wellbeing can meet (Bruni, 2004, 2006; Gui Sudgen, 2005). In the knowledge economy in which we live, value derives from the imagining or the attempt to achieve shared world making (Bruner, 1986; Semprini, 2003): material performance of the product is thus secondary compared to the values that the product incorporates. In other words, the value proposition of the firm is enriched with relational meaning and dialogue based on transparent aims and reciprocal responsibility in terms of promises made. Consequently, if enterprises become sustainable this is not due to sudden enlightenment or for mere communication purposes. Responsible behavior creates value whenever it represents the premise necessary to encourage shared meanings and commitments. In other words, the logics of shared responsibility implies an inter-subjective dialogue, a monitoring process and continuous feedback in order to conform to the shared aims. All this requires enhancing the role played by individuals endowed with intelligence of a mercurial and dynamic kind. Such intelligence becomes a tool for exploring new possibilities and for shaping “reflective modernity” (Rullani, 2010) where the persons who animate socio-economic systems, embody sense, value and knowledge. These elements enable the firm to highlight its social function along with its economic and financial policies. Furthermore, following a sustainable development approach increases competitive capacity. In other words, in sustainable terms, firms not only build on intangibles such as skills, competences, procedures and information systems, but they also tend to generate intangibles of a “collective” nature by their actions such as the protection of the environment (Del Bello, 2006).

The ability of the firm to create sustainable value is in close relation to intellectual capital which when divided into human, structural and relational capital (Edvinsson, 2002), enables the analyzing of elements such as reliability, trustworthiness, satisfaction, honesty, reciprocity, stakeholder relations. At the same time, the conceptual separation of these three aspects of intellectual capital clarify the sources from which sustainable value is generated in terms of: individuals, organizational structures, processes and systems, relationship and networks (Subramaniam, Youndt, 2005). Only recently has research started to include intangibles as an outcome variable of Corporate Sustainability (CS) strategies, based on the overall logic that sustainability increases the trustworthiness of a firm and so strengthens its relationship with critical stakeholders (Arrigo, 2009; Barnett, 2007, Perrini, Vurro, 2010). Furthermore, although the issue of sustainability has found fertile ground with reference to large, often multinational firms, (Elke, Bos-Brouwers, 2009) recently, there have also been developments with reference to SMEs (Schaltegger, Wagner 2010) that represent the predominant organizational form within the member countries of the OECD – Organisation for Economic Co-operation and Development (Spence, Rutherford, 2003). In a theoretical framework that underlines its limits of instruments and actions with reference to responsibility in SMEs (sunken Corporate Social Responsibility - Perrini *et al.*, 2006) empirical research has indicated a specific entrepreneurial fabric oriented towards sustainability value creation in terms of attention dedicated to: stakeholder relations, in particular with regard to human resources, strong integration with the territory and local community and eco-innovation (Molteni, Lucchini, 2004, Del Baldo, 2010; Ciasullo, Monetta, 2011, Sala, Castellani, 2011). All the aspects delineated above can be explicated in intangible terms in particular with reference to governance systems, internal processes, human resource capital and enhancement of relations in a multistakeholder perspective (Gazzola, Mella, 2006).

On the basis of the above, the paper analyzes how an SME integrates sustainability within its corporate strategy, the practices implemented and how they reflect on accumulating and enhancing intangible assets.

The basic hypothesis is that a culture oriented towards the voluntary integration of social and environmental objectives in corporate strategies and processes (Perrini, Tencati 2008) shared by all the members of the organization, facilitates coordinated activities and relations both inside the firm and with reference to the actors of the context, in that they represent the sap of loyal and transparent attitudes, provoking virtuous and synergic behavior which contributes to the creation of sustainable value. Consequently, it is fundamental to ascertain how the firm influences and is influenced by the relational network in which is embedded. If it is true that the creation of sustainable value is developed in an ever more complex and inter-dependent socio-environmental context, a vision of enterprise emerges that cannot be detached from the active involvement of the stakeholders (public or private sector) in projects aimed at preserving socio-environmental as well as economic balance, through the development, attention to and enhancing of both resources in common and relational ties. In this perspective, CS is delineated as a firm's specific core competence and the source of competitive advantage.

### **Sustainability and value creation: literature review**

On the basis of the definition provided by the United Nations Brudtland Commission (1987) sustainable development is “development that satisfies the economic, environmental and social needs of the current generation without compromising the development of future generations”. With reference to firms, the main actors of economic growth, the contribution of socio-economic organizations to sustainable development implies that the activities put in place take into account social and ecological issues both as concerns the firm and its relations with stakeholders (Van Marrewijk, Werrw; 2003). In this context, a firm oriented towards sustainability pursues growth and development equally balancing and integrating economic criteria and environmental-social objectives in the governance of its activities. It follows that good performance contributes to economic prosperity, environmental quality and social capital (Elkington, 1997; European Commission, 2002).

Different theoretical conceptions of sustainability have been proposed in the literature, that vary on the degree to which sustainability means “economic sustainability” (Banerjee, 2001; Dyllic, Hockerts, 2002; Fowler, Hope, 2007) or is extended to include environmental and social issues. “Economic sustainability” means that the firm operates in the interest of its owners through maximizing their wealth. In this context, scholars evidence the negative impact of sustainability related activities and behavior on performance, focusing on the costs incurred by firm engagement in social and environmental managerial practices (Friedman, 1962, 1970, Jensen, 2001, Barnett, 2007). However, several studies have shown that firms are not separate from the natural environment within which they are located and operate and that the engagement with the natural environment can improve firm performance and contribute to a competitive advantage (Hart and Ahuja, 1996; Sharma and Vredenburg, 1998). These studies support a vision of “ecological sustainability” where the challenge for firms is to move beyond pollution control or prevention and to operate within the carrying capacity of ecosystems by minimizing resource use and their ecological footprint (Hart, 1995; Sharma, 2003). Therefore, radical shifts in business practices and strategic thinking are necessary to bring about a lasting reversal of current levels of environmental destruction (Hart, 1997; Shrivastava, 1995). The change in role played by firms and the search for legitimisation and social consensus has led to much debate in the literature: “Business, as the most powerful institution in society, must be the instrument of social justice” (Prahalad, 2005); “Even the most private of business enterprise is an organ of society and serves a social function... the very nature of the modern business enterprise imposes responsibilities on the manager” (Drucker, 1955, p.375) and “it must consider the impact of every business policy and business action upon society” (ibid, p.382). In this context, “social sustainability” requires firms to assume wider responsibilities towards various stakeholder groups and the social environment in which they operate (Carroll,

1999; Dunphy et al., 2003; Freeman, 1984). In general, the studies concur in underlining that social sustainability means paying attention to: internal organization development, attempts to deal proactively with the community and involvement with stakeholders. Many studies report a positive relationship between social and economic performance as the result of greater firm capacity in managing the expectations of their social context of reference (Waddock, Graves, 1997). As is well known in CSR studies, the stakeholder theory (Freeman, 1984; 2004) is the basis of this approach as it emphasizes the need in business management of respect for the diverse interests of stakeholders, which will lead the firm to find compatibility between economic objectives and maximizing the return for shareholders and the satisfaction of interests expressed by different stakeholders. Underlining the concept of equity (fairness) for all categories of stakeholders, without exception, the stakeholder theory underpins ethical ethical governance, since it recalls the values and principles of a moral nature (De Baldo, 2009).

In a “holistic vision”, sustainability combines the three perspectives mentioned above (Dyllick, Hockerts, 2002; Dunphy *et al.* 2003; van Marrewijk, 2003; Young, Tilley 2006). This implies the need for firms to simultaneously improve social and human welfare while reducing their ecological footprint and ensuring not only the effective achievement of organizational objectives (Sharma, 2003) but also to contribute actively to sustainable value creation. In this perspective, CS attempts to shape the environmental, social and economic effects of a firm in a way that results firstly, in sustainable development and secondly, in the firm’s contribution to the sustainable development of society as a whole. In other words, the onus is on firms to consolidate sentiments of citizenship and rectitude. The outcome benefits society and environment while at the same time, improves firm competitiveness (Porter, Kramer, 2002, 2006; Husted and Allen, 2004). Consequently, economic success and competitive advantage, the efficient use of natural resources and social legitimacy are linked together on the basis of a circular and synergic concept of firm objectives (Tencati, 2007). In this perspective, although the prime responsibility of a firm is generating profits at the same time, it has to contribute to social and environmental development, through integrating sustainability as a strategic investment core business, not only fulfilling legal expectations, but also going beyond compliance and investing "more" into human capital, environment and stakeholder relations. Thus, if the aim of a firm is to create value, the underlying processes have to be sustainable, in other words long lasting in that they are able to involve and remunerate the various stakeholders which in different ways bring resources functional to the success of the firm.

This means that such processes have to enhance and consolidate relations ensuring sustainability. Therefore, the capacity of the firm to create sustainable value depends on the sustainability of the relations the firm has with its various stakeholders (Perrini, Tencati, 2008b). This implies a definition of enterprise as a relational system (Pellicano, 2004; Pellicano, Ciasullo, 2010) that is nurtured above all by immaterial (intangible) resources (i.e. information, knowledge, trust) the systemic nature of which is characterized by the prevalently high content of (the) service. In such a perspective, unwritten rules the result of widespread, continuing relations between the firm and the various related entities, represent the basis of a process of sharing, joint responsibility and synergy in the context of processes of value creation.

The relational vision refers to the factors of a cognitive type that involve both internal and external firm processes for generating innovation engagement and involvement in interaction and collaboration are fundamental thanks to which (Koblas, 2007) social, environmental and sustainable development innovation is achieved (Hall, Vredenburg, 2003). In short, the creation of value represents the product of dynamic interaction between systems while the firm’s value proposition is connoted more and more by a series of values and value propositions the product of responsible action. Governance capacity consequently consists in building relations with different categories of stakeholders, based on projects as well as vision and values in common oriented towards CS.



Value creation is linked therefore, to the capacity for collaboration rendering stable the encapsulating of critical resources independent of negotiations or contracts, which evolve towards stable and trustworthy relations capable of creating mutual benefits. This type of relation, in a partnership perspective, qualifies interaction characterized by the co-participating and co-defining of objectives by means of the coordinating, sharing and synergic use of respective resources.

This capacity is the pre-requisite for the firm consensus and legitimisation on the part of the stakeholders sustaining firm development (i.e. employees, suppliers, clients, banks, state or public sector institutions, etc.).

Consequently, CS can be defined as a new managerial model based on the crucial value of stakeholder relationships and on the capacity of firms to strategically integrate social and environmental issues into business operations and interaction with stakeholders beyond legal requirements (Perrini *et al.*, 2006, Lambin, 2009,). Based on this assumption and supported by empirical evidence, researchers have started to investigate how CS practices are integrated into organizational, managerial policies and whether they enhance market gains (Perrini, 2009). Furthermore recent research has begun to include intangibles as an outcome variable of CS strategies based on the overall logic that CS increases knowledge, trustworthiness, key sources of competitive advantage (Perrini, Vurro, 2010).

### **SMEs and sustainability: literature review**

The literature on sustainability integrated in business practices has naturally concentrated on the large, usually multinational companies, where impacts are significant (Elke, Bos-Brouwers, 2009). However, European Commission policies (COM, 2007, 379 final) underline the fundamental role played by SMEs in the shift towards new, more sustainable models of production and consumption that can be achieved by investment in human resource, social and environmental capital. SMEs, in fact, constitute a relevant part of the entire European industrial sector: they represent 99% of European firms (COM, 2005, 551); furthermore, they generate a significant impact on the environment although 75%-90% are still unaware of this (NetRegs, 2007). The sustainability objective promoted by the European Union is even more valid for Italy which is number one in terms of importance and number of SMEs in Europe, employing more than 65% of the total workforce and generating more than 50% of national added value (Unicredit, 2009-2010).

Emphasizing the impact of studies on the determinants of sustainable development in SMEs has gained momentum among researchers during the past decade. Comparisons between small and large firms in terms of sustainability practice have been carried out (Jenkins 2004, Perrini, *et al.* 2007), and barriers and motivations to firms involvement have been examined (DTI 2002; Longo *et al.* 2005). Studies have identified three key barriers to adoption of proactive environmental strategies: the perception that SMEs have little or no environmental impact compared with large corporations; a lack of environmentally focused capabilities and concern over the cost of these measures (Gunningham *et al.*, 2002, IEFÉ *et al.* 2006). A review of the literature on SMEs and sustainability indicates that much of the research to date has focused on the environmental dimension of sustainability (Revell, Blackburn 2007, Hillary 2000, Hillary 2004, McKeiver, Gadenn, 2005, Rutherford, Blackburn, Spence 2000, Merrit 1998, Petts *et al.* 1999, Tilley 2000). As concerns motivation, scholars have identified several factors that could induce a firm to adopt a “proactive” environmental strategies such as: increase resource productivity, abating costs, reduce outputs such as waste (Khanna & Anton, 2002). The adoption of proactive environmental strategies can improve the reputation and image of a company and, consequently, its relations with customers, investors, local communities and other stakeholders (Biondi *et al.*, 2000; Bansal, Roth, 2000; Khanna, Anton, 2002; Bansal, Hunter, 2003). Moreover, although some smaller companies have taken the lead in managing their own environmental impacts in a well structured and effective way, most SMEs are

still characterised by a lack of awareness on their environmental impacts and in particular concerning the ways in which such issues can be effectively managed (Iraldo *et al.*, 2010).

In conclusion, there has been less research and still less is known on the social practices of business related to sustainability of SMEs (Foot, Ross, 2004; Sharma, Ruud, 2003). There is a gap in the literature on SMEs and their practices in a sustainability context (Lawrence, *et al.*, 2006). Consequently, further investigation is required within the area.

As concerns the specific characteristics relative to SMEs, highlighted in the literature the principles of sustainability are an intrinsic part of the creation of value process: on the one hand the centrality of ethical governance and entrepreneurial values (Vyakarnam *et al.*, 1997; Spence *et al.*, 2000; Jenkins, 2006); on the other hand, the importance emerges of relational approaches focusing on the participation of SMEs in networks (Baldarelli, 2007) and industrial districts (Molteni *et al.*, 2006; Fugazza *et al.*, 2006, Battaglia *et al.*, 2006). With regard to the former, the pervasiveness of ethical evaluations in business problems is fundamental for the entrepreneur, as well as assessments of effects of ethical choice. “In SMEs the owner-manager is both the driver and implementer of values. Managers exhibit their personal values through the exercise of managerial discretion and SME owner-managers have the autonomy to exercise such discretion” (Hemingway, Maclagan, 2004). The scale of business purposes (Sciarelli, 2007) mainly refers to the entrepreneur owner, for which the link between personal and business success is closer and more visible than is realized in the context of entrepreneurship and property delegated widespread and takes the form of ethical and responsible behavior regardless of the outcome. In this context, the first instance the sense of belonging on the part of the entrepreneur and his being part of a community acts as a springboard for the creation of a platform for sustainable development. Studies on sustainable entrepreneurship evidence how sustainable entrepreneurs show personal competence (Senge, 1990) and consider their professional life as a creative act. Differences between personal goals and perceived reality are taken as a challenge and not as a problem (Senge, 1990). Sustainable entrepreneurs furthermore mostly influence the firm very much with their personal goals and preferences in such a way that these are reflected in the firm’s goals. This is more common in small firms rather than in larger enterprises (Schaltegger, Wagner, 2011).

Secondly, the paths based on collaboration between SMEs and institutional, local and national, public and private (local authorities, chambers of commerce, universities, research centers and training, professional and trade associations, non-profit, banks) (Spence, Schmidpeter, 2003; Lepoutre, 2006; Orskov, 2006; Maass, 2006) are fundamental to the implementation of strategies and policies to draw on sustainability. Other factors characterizing SMEs are: independence, versatility, prevalence of interpersonal relations (Spence, 1999). In small businesses, the transmission of values together with the streamlined organizational structure are typical of a context in which the dissemination of ethical principles occurs through the selection of human resources often with an innate ability to resolve ethical dilemmas and capable of assessing the sustainability of decision making rather than balancing the interests of the firm.

Finally, a related issue concerns the contribution of social capital of SMEs (Spence *et al.*, 2003; Perrini, 2006) in terms of increasing the sustainability and participation in building the common weal in the context of the territory (Del Baldo, 2010). The concept of social capital refers to “connections among individuals – to social networks and the norms of reciprocity and trustworthiness that arise from them” (Putnam, 2000, p.19). The intangible assets of reputation, trust, legitimacy and consensus are all aspect of social capital and especially SMEs established in the local community in which they operate or because they belong to a particular industrial district.

From the above considerations it emerges that the relational aspect is a distinctive feature of SMEs. The network of relations created by the firm where there is a strong sense of belonging to the territory, can trigger synergic virtuous cycles for creating sustainable value. The link between the

firm and the actors of the context is created on the basis of principles of reciprocity, transparency and involvement, fundamental levers for increasing intangible assets.

## **Research objectives and methodology**

Our research was based on an in-depth analysis of the relationship between CS, intangibles and value creation.

The paper aimed to answer the following research questions:

- . How sustainability is integrated into corporate strategy to achieve CS?
- . How are CS practices are implemented and managed?
- . How CS strengthens intangible assets?
- . How CS improve corporate performance?
- . What are the most relevant contingency factors in relation to CS practices in terms of positive cascading effects on the territory concerned?

The research was developed using a qualitative approach and a case study methodology (Yin, 1994, 2003; Fayolle, 2004). The fieldwork approach, as suggested in the literature (Adams, 2002) has the dual aim of "grasping in detail the main characteristics of phenomena being studied" and understanding the dynamics of a given process (Ryan et al., 2002). The methodology – the development of a case study - represents a "research strategy that focuses on understanding the dynamics that characterize specific contexts" (Eisenhardt, 1989, p. 532). Case studies address the research questions with an emphasis on qualitative approaches and forms of ongoing research (action research) and enable the description, explanation and comprehension of business scenarios in their dynamics and evolutionary perspectives. Based on a non-probabilistic technique – a technique used in case studies (Neuman, 2000) - and opting for a purposive case (i.e. the presence of particular elements and content information - Saunders *et al.*, 2003) a specific case, Sabox S.R.L was chosen on the basis of the following criteria:

- . Firmly established in the territory;
- . a small-size firm operating in the context of the Nocera-Gagnano district;
- . a brand-owner;
- . the supply system is rated as ‘of high environmental impact’.

With regard to the first criterion, Sabox, although created only recently (2004), is part of a group of firms established from the merging of Antonio Sada & Figli Spa and Aldo Savarese. Antonio Sada & Figli spa is a family firm spanning three generations starting from 1900 when the Sada process of industrialization of secondary packaging became effective. Aldo Savarese of local origin, has been working since 1998 as a manager for Antonio Sada & Figli spa. Mutual understanding and common aims and values have led to a strong relationship and the creating of Sabox srl. Aldo Savarese, currently partner and CEO, holds steering powers in the management and governance of the firm, keeping it on a steady keel in terms of potential conflicts that could arise between the partners.

Regarding criterion two, it should be pointed out that the Nocera-Gagnano district (Campania; Southern Italy) active in the pasta and food-canning industry is particularly attentive as concerns the aspects linked to socio-environmental sustainability, receiving in 2002 a specific award for devising a project of environmental innovation linked to eco-sustainability (Cariani, 2002). As a brand-owner, Sabox is especially vulnerable to negative publicity relative to social or environmental conditions in its network system. In fact, it works in an industry (paper), characterized by high critical mass in terms of social and environmental impacts.

In the Italian context of CS Sabox can be seen as a “unique” or “extreme” case (Eisenhardt, 1989; Pettigrew 1990). Extreme cases facilitate theory-building because, by being unusual, they highlight both the unusual and the typical (Patton, 2002). In other words, in extreme cases, the dynamics tend to be more visible than they would be in other contexts. In this sense, the history and standing that characterize Sabox srl have offered an interesting opportunity to study the link between CS,

intangibles and co-creation of value for the growth and development of the socio-economic fabric of the area.

### **Data Analysis: collection and processing**

In line with Eisenhardt's suggestions, we combined different methods of data collection, in that 'triangulation made possible by multiple data collection methods provides stronger substantiation of constructs and hypotheses' (1989: 538), not only in hypothesis testing but also in theory-building research (Glaser & Strauss 1967, Yin 2003).

The analysis presented below is based on the collection of qualitative and quantitative information obtained during several interviews with the entrepreneurial team and conducted on the basis of semi-structured questionnaires, direct observation during visits, analysis of documents (content analysis) available on the web (company website) and printed documentary sources such as the Company's Social and Sustainability reports, brochures, educational and promotional materials.

In more detail, the sources of empirical evidence can be divided into the following categories:

*Semi-structured interviews:* the primary method of data collection involved a total of ten semi-structured interviews with members of the organization: Chief Executive Officer (CEO), Product Development Manager, Sustainability Supervisor, Members of Green Team (in number of three), Sales Manager, Supply Chain Manager, Human Resources Manager and Head of Management Control, Quality and Safety. The non-standardized interviews had the dual aim of ensuring high involvement on the part of the respondents and margins for non prescriptive answers and insights (Kvale, 1996). The time span of interviews ranged from half an hour to two hours, and most were recorded. Whenever this was not possible, detailed field notes were taken. Interviews comprised open-ended questions developed on the basis of the main research questions, such as specific initiatives and relationships with business partners and other stakeholders.

*Annual reports and other external communication tools:* the Corporate code of conduct was analyzed together with the Code of Ethics and the Social and Environmental Reports. The corporate website, press releases and other documents intended for external communication were also analyzed.

*Field observation:* the company was visited between March and May 2011 in order to observe day-to-day company practice.

*Corporate histories and other archival material:* archival searches helped track the evolution of Sabox over time and at different levels of analysis.

### **Data analysis**

After organizing and preparing the data for analysis, on the basis of grounded theory, the iterative coding process relative to data and the emerging theoretical categories was put in place. Initial codes were generated by identifying statements regarding the informants' perceptions on the meaning of strategic CS conditions. In parallel, CS practices were analyzed in terms of their enhancement of intangibles and their link with the co-creation of value.

As the initial codes became consolidated across interviews, they were aggregated and classified in open to axial coding. As a general consideration, and given the selected strategy of inquiry, theory was created iteratively from observation and data, but also by comparing emerging ideas with archival data and the existing literature in order to validate the findings and to inform interpretation. The coding was carried out separately by two researchers (Silverman, 2001). A comparative analysis was put in place to discuss and resolve discrepancies. Where these differences could not be resolved easily, clarification was sought from the interviewee.

## **Findings**

### **The firm and its corporate value structure**

Sabox Srl is located in Nocera a small town in the Province of Salerno in the South of Italy. Its core business consists in the design, production and sale of corrugated cardboard packaging accredited with FSC-certified (Forest Stewardship Council) status and specific products designed for collecting waste for recycling. At the end of 2010, the firm employing 31 staff members, reported an annual turnover of more than 8 million Euros and a total balance of more than 7 million Euro. Sabox's target is prevalently regional where it holds a position of leadership. It caters mainly for the food industry, floriculture and personal care. As mentioned previously, Sabox is part of a group of businesses established on the initiative of the Sadas. This united and determined family, have invested constantly, during the various generational turnover phases and thanks to equity agreements, has brought the group to the top of the national packaging industry. The attention and the awareness that they have always shown towards social issues and respect for the environment, merging in the Group's corporate culture, is reflected in the various stages of the packaging supply chain. With Sabox the family has achieved its sustainability project to the full, creating an "eco-friendly company" innovative, dynamic and flexible. In effect, in just a few years the firm has grown in the market place offering a wide range of customized, good quality products and becoming a point of reference in the context of the Nocera- Gragnano district. Thanks to the close relationship between the Sada family (80% ownership) and the CEO (20% shareholding) the firm aims to expand following a pathway of growth based on the safeguarding of the environment and the creation of social value for the territory. Inspired by clear cut values, the company pursues the ethical principles stipulated on The Global Compact agenda: human rights, work, environment and ethics in business. As the firm's CEO states: "Our remit is to work in total respect of the people and the environment, building relations based on consideration, friendship and loyalty". Sabox's mission is: "to spread ecologically responsible productive practices that offer great opportunities both in terms of company growth, staff development, customers, suppliers and the community as a whole". Excellence and the awareness that competition based on ideas, knowhow and expertise are summed up in the corporate vision: "Established leadership in the eco-sustainable corrugated cardboard packaging industry, by designing innovative packaging and products for the ecology sector, sustained by marketing strategies aimed at enhancing such commodities, differentiating from competitors and contributing to the development of ethical and socially responsible behavior". Furthermore as the CEO states: "Sabox's vision stems from the need to contribute to the enhancing of a complex territory from the ecological-environmental point of view (in this respect, the rubbish emergency that hit Naples in the summer of 2008 – and still ongoing in 2011 – is a case in point)" raising awareness and communicating the need for ecologically responsible practices and production. In this context, the basic idea is to contribute actively to the development of differentiated waste collecting for re cycling and to the creation of an ecological culture, an ulterior objective being to upgrade secondary packaging - generally considered a commodity of scarce value - by means of an adequate branding strategy that considers packaging an important vector of communication and enhancement not only of the product contained in the packaging but also of the logics with which the packaging has been produced. In this sense, Sabox packaging guarantees the choice of eco-compatible products and as a result, has certainly gained a relevant place in the practical safeguarding of the environment. The guidelines stemming from the corporate vision explicating Sabox's underlying values are reflected in the strategies and policies of the firm. Such strategies and policies are aimed at: differentiating their offering in a strategic market (corrugated cardboard for packaging); classifying processes of research and development, building stable and cooperative relations with suppliers and customers and not least, safeguarding the well-being of their employees, community and territory. These aims reflected in Sabox's CS strategies, address in particular, the creation of value and company growth. They concern:

- branding strategies for enhancing secondary packaging and the product it contains;
- development of new eco-sustainable products by means of R&D;

- innovation and creativity;
- enhancing environmental sustainability by a constant process of monitoring and optimizing corporate procedures and the gradual conversion of production towards eco-sustainable products;
- striving for excellence in client relations through high quality customized product offers and services, developed by means of co-marketing and partnership initiatives;
- partnerships with suppliers and collaboration with local authorities, institutions, nonprofit associations and schools in order to have a positive influence on the territory and to spread a culture of sustainable production in the perspective of a recycling society;
- professional development and staff enhancement.

The principles clearly representing drivers of intellectual capital are analyzed in detail in the following section in order to clarify the mechanisms by means of which Sabox has effectively enhanced such intangible assets in a sustainable perspective.

### **CS and Environmental Management**

The firm conviction that “attention towards the environment is the present prospecting for the future, today preparing for tomorrow”, has led Sabox to put in place an innovative industrial project denominated “Green Project” (GP) an innovate product and process programme, a system of environmental management and orientation towards a corporate culture that disciplines the “modus operandi” of the firm both in the activities put in place inside the plant and in those concerning interaction with stakeholders outside the firm. For the CEO, innovation means above all, believing in ideas, implementing them with passion and determination in the awareness that courageous choices of action will contribute to changing society for the better. This industrial project is a winner not only by virtue of its innovative technological approach but also because of the implicit respect nurtured towards society and sustainability of the environment. The validity of the project idea was awarded the "Paper Recycling Award 2009" in the category “Technology Improvement and R&D”, in the event “From Paper to Publishing: creating a Value for Europe” promoted by the European Recovered Paper Council for commitment in the production of totally sustainable cardboard.

The project idea consists in the production of an innovative type of recycled paper ideated by Sabox in collaboration with the Sada Group. The raw material for the cardboard is derived from post-consumption carefully selected pulp from the Campania area. Eco-design by specialized engineers and an innovative process of production guarantee excellent physics-mechanical capacity features. The cardboard is developed through various processes of industrialization in conformity with the type of client to satisfy. Consequently, two product lines have been created: the packaging line and ecology. The former comprises GreenBoxX and GreenTray (both registered trademarks) packaging i.e. an American box and a tray for the secondary packaging of foodstuffs; the latter comprises OCTO a wide range of containers for collecting waste/rubbish to recycle, destined for the public administration and public and private sector offices.

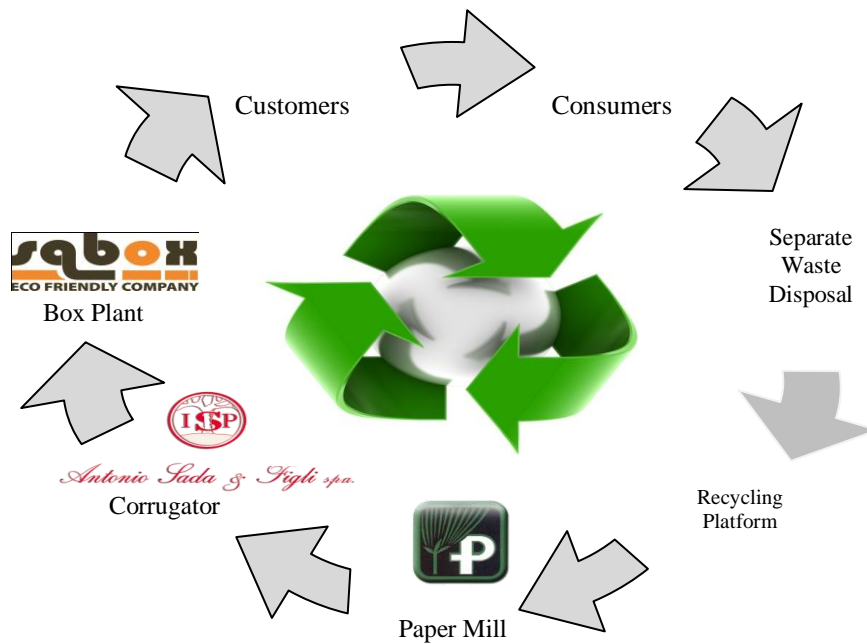
The idea of extending the use of recycled paper from a simple packaging tool to an item of furniture has led to the development of a third production line called FormaAperta. The waste from processing, as well as that from post-consumption, is used for the furniture design system. The CEO convincingly states: “The aim is to show how “waste” can represent a precious resource for the environment, the territory and the economy”. It should be noted that in the period 2009-2010, sales of green products increased by about 40% compared with overall turnover. The objective is to reach 100% by 2012”.

Eco-design principles, (optimizing weight and packaging volume guarantees a reduction in the use of raw materials and lower environmental impact relative to transport) are supported and optimized by Life Cycle Assessment (LCA), conducted in conformity with UNI EN ISO 14040:2006; 14044:2006 standard regulations. To complete the plan in terms of environmental safeguarding are

the EPD (Environmental Product Declaration) and FSC certification. In this respect, the Sada Group was the first in Italy to obtain FSC multi-plan certification in 2009, guaranteeing the traceability of the product throughout the working phases of the recycled cardboard from the pulp stage to that of the finished box. The FSC promotes responsible management of forests and the controlled use of recycled paper through the identifying of wood derivatives managed responsibly or as in the case of Sabox, of paper products obtained from post-consumption pulp. It should be pointed out in any event, that attention on the part of Sabox towards environmental conservation is manifest even in the case of products that do not have FSC certification. These products are made using a very high percentage of recycled cardboard, taking into account that products made exclusively with pure fibre amount to little more than 1% of overall production. The benefits of recycling are significant. From a survey carried out by (COMIECO) it appears that in order to produce a ton of pure fibre, 15 trees, 440,000 litres of water and 7.600 kW of electricity are needed: to produce a ton of recycled paper 1.800 litres of water and 2.700 KW of electricity are sufficient; furthermore, no other trees need to be cut down. In 2009, with its green products, Sabox was potentially able to save 12.772 trees, 3.731.080 cubic meters of water, 4.938.445 kW of electricity (Source: Sabox Integrated Social Balance).

Sabox was the first firm in the sector to put in place eco-compatible - in particular lean thinking models – in their processes of production; aimed at reducing waste during the relevant phases of production, improving energy efficiency during production processes, limiting consumption and losses, recovering and recycling production waste. The firm has also put in place other programmes for reducing energy source consumption (energy and water). Energy is obtained directly from renewable sources by virtue of agreements with a local private sector company. Water destined for productive processes is obtained from an artesian well. In order to limit water consumption, orders in the same colours are put together and cleaning machinery is reduced to a minimum. To avoid the production of toxic waste, the use of water based ink (supplied by WBS, the result of cooperation between the two firms). is privileged together with ecological glues not containing plasticized composites. The distilling plant enables the removal of most of the water used its recovery for subsequent uses. The cardboard scraps is compacted into balls, tied up and sent to the Group's paper mill which is also a platform for recycling and subsequent reuse. Unusable material is stored in appropriate boxes and periodically given to a specialist waste collection firm. Consequently, the outcome is a virtuous chain where paper is produced, discarded and recycled in the context of the district in which it is used (Fig. 1).

**Fig. 1: The integrated cycle**



### CS and Internal Organization

The quality and values embodied in Sabox's products are closely linked to the quality of employees. Staff enhancement is given priority in the awareness that human resource capital represents a strategic patrimony. Besides, attentive care shown towards staff (considered by the CEO irreplaceable collaborators) stems from the conviction that awareness and the diffusion of a sustainable culture are possible only through constant actions of awareness raising and involvement. In this respect, it should be highlighted that right from the start, the firm has always hired local staff; this policy confirms the close link with the territory as a source of excellent resources both in a professional and personal capacity. In fact, employees and collaborators reside in a circumscribed area of 40 km from the Sabox premises. Furthermore, the firm's agile, articulated organizational structure facilitates team working processes relative to innovation and customized projects functional to specific customer needs. Motivation, sense of belonging and staff satisfaction are encouraged through:

- a) The creation of a dynamic, pleasant, involved and family type corporate climate where collaboration and knowledge sharing are encouraged and common policy pursued. In other words what the CEO defines as "a fun environment". Here, staff are able to work in harmony and express their full potential in terms of creativity. Ongoing efforts in this area facilitate advanced skill development, dynamic innovation or the conviction that a positive state of ferment can bring out talent and know-how thanks to relations based on respect, loyalty, transparency and shared aims. The structure and size of the firm also facilitate effective internal communication simply by:
  - a) periodic meetings involving all business areas, to delineate common aims, appraise results obtained both on an individual and global scale, the exchange of ideas, opinions, suggestions and complaints;
  - b) divulgation of information by means of newsletters and firm journals.

Staff motivation and satisfaction are encouraged through professional training courses that envisage job rotation and promotion schemes. Incentives for greater responsibility consist both in economic advantages such as productivity bonuses, gross premiums related to the monitoring of a range of factors such as flexibility, punctuality, work sharing, ability to work in teams, ability to solve specific problems; and perks such as extra leave, involvement in cultural and artistic events promoted in the territory (see table 1).



Guaranteeing both customer satisfaction and enhanced environmental performance is also underpinned by strategies such as: car pooling on a rota system to limit the number of cars used by staff or policies such as working at home by means of ITC networks. CO2 emissions are limited as a result and staff travelling times to and from the firm are reduced.

b) On the professional training scenario, courses to update staff capacities and competence are envisaged to improve the quality of corporate management processes. As the CEO states: “Sabox’s decision to invest in training derives from the awareness that constant updating and improvement in the firm is the product of the professional growth of its human resources”. In this context, it should be noted that over 95% of the human resources are periodically involved in training programmes and/or initiatives. Besides training activities, the staff are invited to participate in seminars, conferences, trade fairs relative to sustainability issues for greater awareness in socio-economic issues. During recent years, staff have benefited from numerous training initiatives on specific topics including: “Quality Management System”, “Certification FSC System”, “HACCP Method”, “Occupational Health and Safety”, “Green Project”, “CS and CSR”. The attention that Sabox addresses to the professional growth of its staff is witnessed in the processes of assessment and monitoring put in place at the end of the course. Results indicate that as concerns staff motivation and involvement relative to the issues studied during their professional training, unanimous approval consensus on the part of the staff emerges.

c) A working environment that conforms to the current dispositions for staff safety and protection. Sabox is inspired by such principles has promoted a voluntary project for staff health and protection which in addition to the medical checkups prescribed by law, envisage periodical individual. Furthermore, a system of prevention and protection to guarantee the health and wellbeing of staff during working hours has been put in place for all sectors of the firm. In this respect, a person responsible for the personal safety of the workers has been appointed on the CEO’s staff and a Risk Assessment Document drawn up and approved. Such preventive measures resulted in “0” injuries in 2009, confirmed also for 2010 (see table 2).

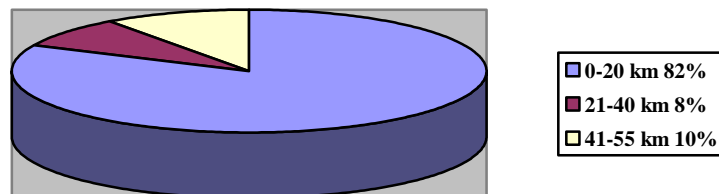
### **CS and the Client Centred Market**

As concerns client orientation Sabox is inspired by the principle that: “Client centredness is the foundation of our decision making and actions; we pursue client satisfaction and problem solving by means of specific services”. On the basis of this principle, Sabox nurtures client relations, concentrating on customized products and partnership from design to socio-environmentally responsible production. The awareness that this commitment benefits both customer and firm as well as the environment, is manifest and that the cornerstones underpinning such commitment are interaction, respect for customers, transparency, communication and information. From this perspective Sabox privileges direct contact with clients, once a year carrying out a survey (by means of a questionnaire) not only to verify customer satisfaction, but also to monitor environmental safeguarding processes. As the CEO maintains. “Many of our clients pursue in common with Sabox the vocation for safeguarding the environment in order to favour sustainable growth, subscribing to the view that. an efficient system of environmental management results in benefits as concerns economic saving and enhanced relations with the community”.

The main objective Sabox strives towards is functional quality as well as that of creating surplus value for its clients, by transforming packaging or boxes into a vehicle of communication that enhances the product they contain. The staff responsible for the Green area, guarantee respect for qualitative standards provide the knowhow necessary for designing packaging systems that are not only functional to the specific needs of the client but also reflect on performance in terms of socio-environmental impact. With the majority of customers this is achieved by projects in which the packaging is integrated within the firm’s client production cycles. In other words, projects are

envisaged in the sense of functional tools to improve the whole supply chain for customers, to identify critical areas and for the creation of highly customized solutions. Attention to environmental sustainability and to the creation of value for the territory of reference has induced Sabox to privilege relations with local firms in a “Km 0” distance perspective of growth and development (Fig.2).

**Fig. 2. Distribution of Sabox Clients on a territorial scale**



**Source:** Sabox Integrated Social Balance

Most of Sabox’s clients are located in the Campania Region and in particular in the district of Nocera-Gragnano. The company, through constant awareness and customer commitment, seeks to implement an “infinite recycling process” educating and evidencing the underlying advantages of a culture of recycling and reuse. Initiatives often developed jointly with the clients are promoted to spread eco-sustainable value chain growth (see table 1). Sabox has set up many synergic collaboration ventures. In particular: “Pastificio Lucio Garofalo S.p.A.” situated at Gragnano (about 20 km from the Sabox firm) and “Doria S.p.A” situated at Angri (less than 10 km from Sabox’s premises).

The Pastificio Garofalo S.p.A., uses GreenBoxX packaging to implement eco-sustainable policies. Besides the contribution to territory wealth, the firm’s policy has limited the waste of natural resources as well as the amount of CO2 emissions. The studies on carbon Footprint carried out by Sabox evidence that the use of Green BoxX packaging, during the course of 2010, avoided the cutting down of over 5 thousand trees, the use of 150 million litres of water, almost 2 million kWh of electricity and over 400 tons of CO2 emissions.

The success of the initiative has led to the launching of a product called “Garofalo Numero Zero”, a packet for pasta produced with “zero km” raw materials and “eco-sustainable packaging”.

Also “La Doria S.p.A.”, the main Italian manufacturer of tomato derivatives and canned vegetables and the second most important for fruit juices, uses green packaging. Even in this case, the policy has generated considerable saving evidenced in the studies carried out by Sabox. Given the significant results obtained, Sabox and La Doria put in place a joint project of co-marketing at the 15th Edition of Cibus, the international Salon of Foodstuffs and Dolce Italia with a production programme and the use of sustainable packaging in common. This initiative highlights how a client-supplier relationship has become a supplier-partner relationship.

### **CS and Supply Chain Management**

Respecting the short supply chain has also influenced decision making on the part of Sabox’s suppliers who turn to firms outside the district only when specific skills not available locally are needed. In any event, it should be underlined that about 95% of supplies is provided by firms situated at less than 35 Km distance from Sabox’s production plants and about 99% situated at less than 65 Km. As concerns supplier relations, Sabox aims to create long-term relationships with fewer suppliers. Sabox addresses great attention to selecting its suppliers, taking into account the following criteria:

- Technical quality of supplies;
- Reliability measured on the basis of different parameters (in terms of type of material or service provided);
- Control of technical documentation attesting the conformity of product/service with appropriate certification (Total Quality and Environmental Management);
- Risk Assessment to identify potential suppliers in terms of sustainable behavior. New suppliers are required to complete a self assessment questionnaire relative to a structured weighted analysis of vulnerability areas. Suppliers are not de-listed as a result of initial non compliance but a programme of corrective action is agreed and monitored;
- Suppliers should have values and business objectives in common as concerns sustainable development at the basis of the realization of the concept of the product. In other words, this philosophy of environmental sustainability for Sabox is not an additional element but has to be consistent with the behavioral aspects of providers in order to avoid dangerous situations of "green washing" the effects of which backfire not only on Sabox, but also on Sabox's customers, on customer accounts, and follow on to affect end consumers.

With reference to supplier relations, the firm privileges highly interactive relational partnerships. The purchasing manager says: "our supply chain strategy ensures security of supply and is linked to all the links in the chain. Success is based on efficient, well invested and innovative suppliers and the ability to take a long term view. Collaboration is the key to achieving our goal. Establishing a supply chain involves engaging in every stage of the process from: paper, industrial manufacturing, logistics and recycling". Moreover, the firm works with suppliers on quality as well as environmental and social issues. Sabox offers formal training to suppliers in order to improve their understanding of the way its business is conducted, including Sabox's emphasis on environmental and social issues. Sabox has developed a code of conduct related to its suppliers. It defines what suppliers can expect from Sabox, and what Sabox requires from its suppliers. In particular, it envisages a system of supplier management integrated with Sabox's management control system to check the reliability of the process.

Territory vicinity guarantees a direct relationship with suppliers: they are visited by members of the purchasing teams approximately once a week and the implementation process can therefore be followed on a permanent basis. During their visits, the purchasing teams also offer more informal social and environmental training. This continuous development process aims to bring local suppliers to still higher levels of performance in cooperation with Sabox. The network of supplier relations between Sabox and other companies in the group evidences the integration of different skills in a perspective of creation of new knowledge. Close collaboration between the firms has enabled integrated management of the chain (paper mill, corrugator, box warehouse, recovery and recycling) capable of contributing to the ambitious goal of sustainability in terms of environmental quality, health friendly and traceability of all productive processes (FSC multiplant certification). It should be pointed out that stakeholders external to the group also play a specific part in the process. Numerous projects thanks to cross fertilization of respective skills result in innovative solutions. A case in point is the project put in place with WBS ink suppliers producing a product compatible with water based inks with low metal content and organic compounds. Another initiative concerns Sabox, WBS and the Consorzio Italiano dei Compostori (CIC) through which a fibrous product free of chemical pollutants has been produced and which when not recycled can be used as a fertilizer for crops. With Henkel Italia Spa, glue capable of improving packaging in qualitative terms and limiting emissions of volatile substances during manufacturing processes has been produced.

In general, the working relationships that Sabox has with suppliers, in a relational logic of transparency, allows better distribution of costs throughout the supply chain, recognition of added value generated in each step of the supply chain, ensuring stability, security and sharing of profits.

## CS and the Social Context

The CEO states: “We owe much to our territory and consequently, we try to give back some of the value produced”. The link with the territory on the part of the firm is evidenced by numerous wide ranging initiatives ranging from corporate giving and social solidarity to direct contributions in various contexts, from good practice to participation in events and trade fairs. Participation in these events represents not only an opportunity for Sabox to showcase its products but also a way of spreading a culture of sustainability. In this respect, numerous projects have also been started with national institutions (Legambiente, COMIECO, CONAI packaging) and with various Communes in the territory promoting “training for recycling” initiatives in order to spread a culture of sustainable growth.

Active interaction with the territory is also confirmed by awareness raising and environmental education activities promoted by Sabox in local schools. Intensive communication is also addressed to consumers. In this case, the purpose is to raise awareness on issues of environmental preservation and the dangers associated with the improper use of natural resources as well as to guide the choice towards eco-friendly products (food and non food) guaranteed to improve traceability. To this end, Sabox is willing to share the costs of marketing campaigns jointly with its customers.

Events supported by Sabox are reported in the table below (Table 1).

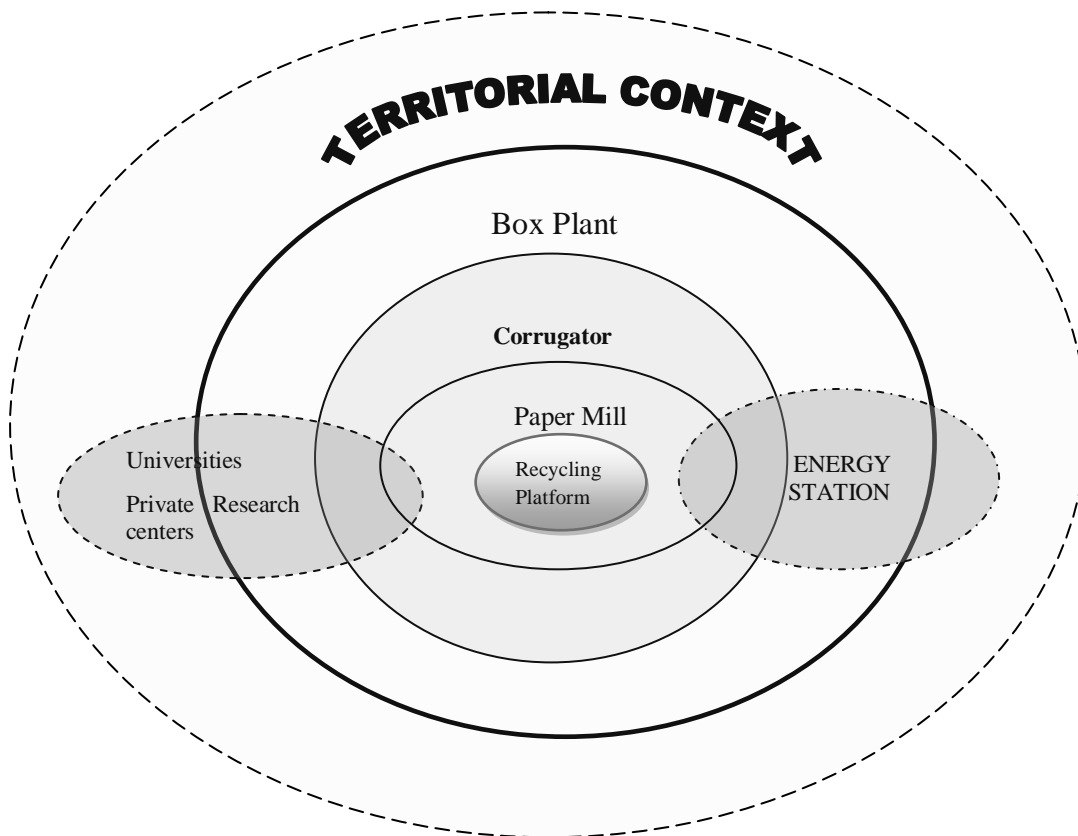
**Table 1:** Events for Sustainability.

Year	EVENTS	AIMS
2009	“Waste in search of an Author”	Sponsorship art exhibition organized by the city of Salerno and Legambiente. Focus: Reflection on waste and recycling.
2009	“Operation clean schools”	Free supply of containers OCTO bells in all the schools participating. Objective: to make school buildings . eco-friendly
2009	“Recycling Festival”	Art Exhibition organized by the Nocera Inferiore Commun. Objective: setting up a stand corrugated cardboard for recycling containers OCTO.
2009	“Ostar”	Sponsorship of sporting event.
2009	“Clean Beaches”	Awareness project organized by Legambiente and Sabox. Objective: To raise awareness of collection and preservation of beaches and bathing in optimal conditions.
2009	“Clean up the World”	Awareness project organized by Legambiente and Sabox. Objective: Awareness raising project for cities maintenance and cleanliness.
2009	“Municipalities Riciclone”	Sponsorship an event organized by Legambiente, Lucio Garofalo and Sabox. Objective: To reward the virtuous sustainable communes.
2009	“Methods and tools for Green Public Procurement”	Organization workshop on the theme of Green Public Procurement (GPP). Municipalities and Provinces aim to raise awareness of green purchasing.
2010	“Earth Day”	Project organized by Legambiente, City of Naples and Sabox. Objective: improvement of public parks in highly urbanized areas.
2010	“Future Earth: Sustainable and responsible communities”	Travelling exhibition realized by Sabox and Achab Group (Italian Network of companies specializing in environmental communication). Objective: awareness raising for waste collection, waste reduction and environmental sustainability and ethics.
2010	“Giffoni Film Festival”	Free supply of furniture for the conference room, office and guest Masterclass section.
2010	“Venice Film Festival”	Free supply of modular furniture and desks.
2010	“Remote Future”	Participation in the exhibition organized by Fondazione IDIS- “Science City” in Naples dedicated to environmental

		impact of human activities. The corrugated panels highlighted the Sabox theme.
2011	“Youth Driven Sustainable Change”	Participation in the event organized by AIESEC (Association of University Students). Objective: interactive workshop with students to illustrate business model adopted by Sabox.

Finally, the awareness of the power of the Internet and networks together with the capacity for creating systems as a tool for sustainable development have induced Sabox, in collaboration with local Universities, to promote a project aimed at creating an integrated centre of excellence for the production paper and its applications. The fulcrum of the Centre is an “energy station” in the sense of industrial area in which the waste material of each productive activity can be utilized for subsequent processes, in other words, a complex self supporting renewable system that can do without non-renewable territory resources (Fig.3).

**Fig. 3: The Sabox Center of Excellence**



**Discussion and Conclusion**

The purpose of our study was to consider by what means a SME creates sustainable value. To this aim, sustainability integrated in corporate strategy was verified as well as the dynamics with which CS reflects on accumulating and enhancing intangible assets. The case study also contributed to clarifying the conditions and preconditions leading the firm to embark on a corporate strategy approach to sustainable responsibility. In particular, corporate strategy appears to be the result of a system of embedded values and beliefs on the part of the owners, concretized in entrepreneurial development and based on safeguarding the environment and the creation of social value for the territory. A personal value system, codified by means of a clear definition of vision and mission in terms of basic strategies (Freeman, Gilbert, 1988; Hamel, Prahalad, 1989; Coda, 1985) converges

on a series of issues for guaranteeing trustworthiness and the maximum safeguarding of the environment, dialogue and stakeholder involvement, skill and knowledge development and finally, responsible citizenship.

The traditional link with the territory and the firm resolve to preserve an industrial brand of market value built on strategies characterized by many actions aim at increasing structural, human and relational capital the performance of which has also been accounted for by means of specific indicators (see Appendix).

Above all, the implementation of CS strategies has enabled Sabox to create a system of eco-innovation based on an ongoing process of R&D resulting in innovation in term of product and processes. As concerns the former, Sabox by combining environmental awareness linked to an approach to product differentiation, based on high standards of quality for the creation of an innovative offer has led the firm to a position of leader in the green industry (see Tab. 3).

With reference to process innovation Sabox has succeeded in adopting a model of lean thinking aimed at reducing waste during the relevant phases of production, improving energy efficiency, limiting consumption and losses, recovering and recycling production waste, in short, improving corporate efficiency (see Tab 2).

Ongoing R&D is put in place thanks to expertise, knowhow and specific human resources skills. Staff enhancement is given priority in the awareness that human resource capital represents a strategic patrimony and Sabox has created a dynamic pleasant, involved and family type corporate climate where collaboration and knowledge sharing are encouraged and common policy pursued. Advanced skills development and dynamic innovation, are encouraged through professional training courses, motivation, sense of belonging and human resource satisfaction. All this has contributed to the accumulation of human resources capital (see Tab. 3).

Furthermore, formalization of the company's reference value, on which corporate strategy is based, has enhanced employee awareness and commitment as evidenced by the index of quality of corporate leadership (see Tab. 3).

The project of sustainability undertaken by Sabox has required a management model that is closely integrated with the supplier and customer.

As concerns supplier relations, Sabox aims to create long-term relationships with fewer suppliers.

The constant attention to relations, through appropriate mechanisms for cooperation and coordination, has enabled greater sharing of values along the chain, resulting in specific knowledge-transfer processes. In fact, numerous projects thanks to the cross fertilization of various skills result in innovative solutions.

The path pursued and integrated through stringent selection criteria and by means of ongoing dialogue, aims at increasing involvement and ensuring greater relational loyalty. This choice is confirmed by the non-existent turnover of the suppliers (see Tab. 3).

As concerns client relations, Sabox is a reliable partner concentrating on customized products and partnership from eco-design to socio-environmentally responsible production. The awareness that this commitment benefits both customer and firm as well as the environment, is manifest and the cornerstones underpinning such commitment are interaction, respect for customers, transparency, openness to dialogue and cooperation. In this perspective Sabox has enhanced its reputation as evidenced by the indicator of relational capital (see Tab. 3).

The network of relations oriented towards sustainability of which Sabox is an integral part, undoubtedly triggers virtuous and synergic cycles which create value not only for the stakeholder involved but which also has a positive impact on the territory context both near and far. In short, for Sabox the creation of sustainable value is nurtured by the knowledge and trust built around the sharing of projects that reinforce corporate reputation and lay the foundation for the generation of competitive advantage.

Findings from case studies cannot be subject to statistical generalization or theory-testing, but case studies can be used to generate theoretical constructs, propositions and/or midrange theories (Eisenhardt, 1989; Yin, 2003). Thus, although the study is a first step towards achieving a more robust understanding of the relationship between the integration of sustainability into corporate strategy and its effects on accumulating and enhancing intangible assets, Sabox exemplifies a specific type of enterprise a "business to business" medium-sized open family firm in which, through well defined procedures and a strongly relational approach, involves partners and all stakeholders in the project of sustainability.

In short, the findings offer a variety of stimuli and many implications for further research in terms of sustainable supply chain management; in particular, as concerns the innovative process of simplification relative to the production chain (short chain), designed to promote eco-sustainability. In conclusion, the case study could inspire other companies to follow this ecological path and potentially facilitate the identifying of innovative factors for sustainable development.

## Appendix: The Intangibles Assets

**Table 2: Structural Capital**

INDICATOR	2009	2010
Investments in machinery and technology. (Investments/Revenue)	2.13 %	2.48 %
Index of computerization (PC/number of employees)	0.666	0.689
Index of packages (Members Office/number employees)	0.666	0.689
Innovation index (number of project on commission)	350	380
Investments in product development and innovation (R&D /Revenue)	3,0%	3,5%
Effectiveness index of innovation (number of projects put into production/total projects)	49,50%	52,70%
Injury severity index	0	0
Index of non compliance (Credit notes/Sales)	0.59 %	0.40 %
Energy (kWh/mq products)x100	3.52	2.86
Gas (mc/mq products)x100000	13.89	8.60
Water (mc/mq products)x100000	5.28	4.09
Waste Water CER 080308 (kg waste water/ mq worked)x100	1.62	1.33
Cardboard scarps (kg di waste/ mq worked)x100	1.77	1.50
Total waste (kg di refuse / mq worked)x100	1.96	2.07
Transports IN (km/mq transported)x1000	3.51	3.14
Transports OUT (km/mq transported)x1000	5.23	6.23

**Table 3: Human Capital**

INDICATOR	2009	2010
Average age of staff	35	35
Percentage of turnover invested in training	0.29 %	0.34%
Houses of training employee (total trainings hours/ number of employees)	228	252
Personale home schooling (sum of scores assigned according to the degree: 1 elementary education; 2 middle school; 3 high school; 4 graduation)	79	85
Turnover output (n° resignation/n° employess)	0	0
Average lenght of service innovation (Simple average years from the date of employment)	6,33	6,12
Synthetic index of employee satisfaction (1=completely dissatisfied; 2 =partially satisfied; 3=fairly satisfied; 4=fully satisfied)	3,1	3,3
Synthetic index of quality of leadership (1=completely dissatisfied; 2 =partially satisfied;	2,8	3,4



3=fairly satisfied; 4=fully satisfied)		
--	--	--

**Table 4: Relational Capital**

<b>INDICATOR</b>	<b>2009</b>	<b>2010</b>
Change in turnover	-3.8%	27.5%
Sell green (%)	6%	25.7%
Market share green (discript Nocera- Gragnano)	100%	100%
Market share no green (discript Nocera- Gragnano)	28%	34%
Average revenue customers	25.803 €	34.771 €
Contentious with customers	3	1
Index of revenue concentration	55.51% (first 10 customers) 70.69% (first 20 customers)	59.47% (first 10 customers) 74.80% (first 20 customers)
Revenue from new customers	4.500€	4.650€
Customer satisfaction (1=completely dissatisfied; 2 =partially satisfied; 3=fairly satisfied; 4=fully satisfied)	3,3	3,45
Incidents investments in marketing and communication (Cost incurred for marketing and communication/ total revenue)	0,55%	0,62%
Turnover of suppliers	0%	0%

## References

- Adams, C. (2002), Internal organizational factors influencing corporate social and ethical reporting: beyond current theorizing, *Accounting, Auditing and Accountability Journal*, XV(2), 223-250.
- Arrigo, E. (2009), Market-Driven Management, Global Competition and Corporate Responsibility, *Symphonya. Emerging Issues in Management* (www.unimib.it/symphonya), 1.
- Baldarelli, M.G. (2007), New perspectives in inter-company relations, social responsibility (CSR) and social, ethical and environmental accounting in Italy by way of the government CSR-SC project: theory and praxis, *Economia Aziendale2000web*, 1, 1-26.
- Banerjee, B., S. (2001), Managerial perceptions of corporate environmentalism: interpretations from industry and strategic implications for organizations, *Journal of Management Studies*, 38(4), 489-513.
- Barnett, M., L. (2007), Stakeholder influence capacity and the variability of financial returns to corporate social responsibility, *Academy of Management Review*, 32(3), 794–816.
- Bansal, P., Roth, K. (2000), Why companies go green: A model of ecological responsiveness, *Academy of Management Journal*, 43, 717-736.
- Bansal, P., Hunter, T. (2003), Strategic explanations for the early adoption of ISO 14001, *Journal of Business Ethics*, 46, 289–299.
- Battaglia, M., Campi, S., Frey, M., Araldo, F. (2006), *A “cluster” approach for the promotion of CSR among SMEs*. ABIS/CBS Conference, The Social Responsibility of Small and Medium Sized Enterprises. Integration of CSR into SMEs Business Practices, Copenhagen, 26 October.
- Biondi, V., Frey, M., Iraldo, F. (2000), Environmental Management Systems and SMEs, *Greener Management International*, 55–79.
- Bruner, J. (1986), *Actual Minds, Possible Worlds*. Cambridge: Harvard University Press.
- Bruni, L. (2004), *L’economia, la felicità e gli altri. Un’indagine su beni e benessere*. Roma: Città Nuova.
- Bruni, L. (2006), *Reciprocità. Dinamiche di cooperazione, economia e società civile*. Milano: Mondadori.
- Cariani, A. (eds), (2002), *Ecodistretti 2002, Politiche ambientali innovative nei distretti industriali italiani*. Ambiente Italia srl, Club Distretti Industriali.
- Carroll, A.B. (1999), Corporate social responsibility: evolution of a definitional construct, *Business and Society Review*, 38(3), 268–295.
- Ciasullo, M.V., Monetta, G. (2011), *The drivers of Corporate Social Responsibility in the supply chain. A case study*, 12th International Conference on Global Business and Economic Development (SGBED), Montclair University, *forthcoming*.
- Coda, V. (1985), Valori imprenditoriali e successo dell’impresa, *Finanza Marketing & Produzione*, 1.
- Comieco, (2010). *Dall’ideazione alla vendita: progettare imballaggi, prodotti e altro con carta e cartone*. www.comieco.org.
- Com, 2007, 379 Final. *Communication from the Commission to the Council, the European Parliament, the European economic and social committee and the committee of the regions. Small, clean and competitive*. Brussels, 8.10.2007.
- Com, 2005, 551. *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Implementing the community Lisbon programme - Modern SME policy for growth and employment*. Bruxelles, 10.11.2005.
- Cunningham, D.H., Maynard D.D., Bontcheva, D.K (2002), *Gate: A framework and graphical development environment for robust NLP tools and applications*, Proceedings of the 40th Anniversary Meeting of the Association for Computational Linguistics (ACL’02), Philadelphia, US.

- Del Baldo, M. (2009), Corporate Social Responsibility e corporate governance: quale nesso nelle PMI?, *Small Business*, 3, 61-102.
- Del Baldo, M. (2010), Corporate social responsibility and corporate governance in Italian SMEs: towards a 'territorial' model based on small "champions" of CSR?. *International Journal of Sustainable Society*, 2 (3), 215-247.
- Del Bello, A. (2006), Intangibles and sustainability in local government reports, *Journal of Intellectual Capital*, 7(4), 440-456.
- Dyllick, T., Hockerts, K. (2002), Beyond the business case for corporate sustainability, *Business Strategy and the Environment*, 11(2),130-141.
- Drucker, P.F. (1955), *The Practice of Management*. New York: Harper Collins Publisher,.
- Dunphy, D.C., Griffiths, A., Benn, S. (2003), *Organizational Change for Corporate Sustainability: a Guide for Leaders and Change Agents of the Future*. London: Routledge.
- DTI - Department of Trade and Industry (2002), *Engaging SMEs in Community and Social Issues*. Research Report, London: DTI.
- Edvinsson, L. (2002), *Corporate Longitude: What you Need to Know to Navigate the Knowledge Economy*. Prentice Hall.
- Eisenhardt, K.M. (1989), Building Theories from Case Study Research, *Academy of Management Review*, 14(4), 532- 550.
- Elke, H., Bos-Brouwers, J. (2009), Corporate sustainability and innovation in SMEs: Evidence of themes and activities in practice, *Business Strategy and the Environment*, 19(7), 417-435.
- Elkington, J. (1997), *Cannibals with forks*. Oxford: Capstone.
- European Commission (2002), *Corporate Social Responsibility: a business contribution to sustainable development*. Brussels, July. <http://trade.ec>.
- EVER Research findings, Final Report to the European Commission - DG Environment*, IEFE Bocconi, Adelphi Consult, IOEW, SPRU and Valor & Tinge, 2006, Brussels.
- Fayolle, A. (2004), À la recherche du Coeur de l'entrepreneuriat: vers une nouvelle vision du domaine, *Revue Internationale P.M.E.*, 17(1), 101-121.
- Figge, F., Hahn, T., Schaltegger, S., Wagner, M. (2002), The Sustainability Balanced Scorecard: linking sustainability management to business strategy, *Business Strategy and the Environment*, 11, 269–284.
- Foot, D.K., Ross, S. (2004), Social sustainability. In *Teaching Business Sustainability*, 1: From Theory to Practice, Galea C (ed.). Sheffield: Greenleaf, 107-125.
- Fowler, S.J., Hope, C. (2007), Incorporating sustainable business practices into company strategy, *Business Strategy and the Environment*, 16(1), 26-38.
- Freeman, R.E. (1984), *Strategic Management: a Stakeholder Approach*. Boston: Pitman, London: Routledge.
- Freeman, R. E., Gilbert, Jr. (1988), *Corporate Strategy and the Search for Ethics*. Englewood Cliff, NJ: Prentice Hall.
- Freeman, R.E. (2004), A stakeholder theory of modern corporations, *Ethical theory and Business*, 7th edn.
- Friedman, M. (1962), *Capitalism and Freedom*. Chicago: University of Chicago Press.
- Friedman, M. (1970), The social responsibility of business is to increase its profits, *New York Times Magazine*, 13 September, 32-33, 122-126.
- Fugazza, S., Pandini, I., Gostner von Stefenelli, C., Equalitas (2006), *Interreg 3A Project. A model for the development of CSR in the province of Bolzano*. International Conference on the social responsibility of small and medium sized enterprises. Integration of CSR into SMEs business practice, Copenhagen, 26 October.
- Gazzola, P., Mella, P., (2006), Corporate Performance and Corporate Social Responsibility. A necessary choice?, *EconomiaAziendale2000 web*.

- Glaser, B., Strauss, A. (1967), *The Discovery of Grounded Theory*. Hawthorne, NY: Aldine Publishing Company.
- Gui, B., Sugden, R. (2005), *Economics and Social Interactions. Accounting for Interpersonal Relations*. Cambridge: Cambridge University Press.
- Gunningham, N., Sinclair, D., (2002), *Leaders and Laggards, Next-Generation Environmental Regulation*. Sheffield, UK: Greenleaf Publishing Limited, 1st edition, 218.
- Hall, J., Vredenburg, H. (2003), The challenges of innovation for sustainable development, *MIT Sloan Management Review*, 45(1), 61-68.
- Hamel, G., Prahalad, C. K. (1989), Strategic Intent. *Harvard Business Review*, 67 (3), 63-71.
- Hart, S.L. (1995), A natural-resource-based view of the firm, *Academy of Management Review* 20(4), 986-1014.
- Hart, S.L., Ahuja, G.(1996), Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance, *Business Strategy and the Environment*, 5(1), 30-37.
- Hart, S.L. (1997), Beyond greening: strategies for a sustainable world, *Harvard Business Review* 75(1), 67-76.
- Hemingway, C.A., MacLagan, P.W. (2004), Managers' Personal Values as Drivers of Corporate Social Responsibility, *Journal of Business Ethics*, 50 (1), 33-44.
- Hillary, R. (2000), *Small and Medium-sized Enterprises and the Environment: Business imperatives*. Greenleaf: Sheffield.
- Hillary, R. (2004), Environmental management systems and the smaller enterprise, *Journal of Cleaner Production*, 12(6), 561-569.
- Husted, B.W., Allen, D.B. (2004), *Corporate social strategy in the multinational enterprise: Antecedents and value creation*, paper presented at Academy of International Business, Stockholm, Sweden, July 13.
- IEFE, Centre for Research on Energy and Environmental Economics and Policy
- Iraldo, F., Testa, F., Frey, M. (2010), Environmental management system and SMEs: EU experience, barriers and perspectives, *Environmental Management*, 1-34.
- Jenkins, H., M. (2004), A critique of conventional CSR theory: an SME perspective, *Journal of General Management*, 29(44), 37-57.
- Jenkins, H. (2006). *A 'business opportunity' model of Corporate Social Responsibility for Small and Medium Sized Enterprises*. ESRC Centre for Business Relationships, Accountability, Sustainability and Society, Cardiff University International Conference on The Social Responsibility of Small and Medium Sized Enterprises. Integration of CSR into SMEs Business Practices, Copenhagen, 26 October.
- Jensen, M.,C. (2001), Value Maximization, Stakeholder Theory, and the Corporate Objective Function, *Journal of Corporate Applied Finance*, 14(3), 8-21.
- Khanna, M., Anton, W.R.Q. (2002), Corporate environmental management: regulatory and market-based incentives, *Land Economics*, 78, 539-558.
- Koblas, J. (2007), *Oltre Wikipedia – I wiki per la collaborazione e l'informazione*. Milano: Sperling & Kupfer Editori.
- Kvale, S. (1996), *InterViews: An Introduction to Qualitative Research Interviewing*. London: Sage Publications.
- Lambin, J., (2009), Capitalism and sustainable development, *Symphonya: Emerging Issues in Management* ([www.unimib.it/symphonya](http://www.unimib.it/symphonya)).
- Lawrence, S.R., Collins, E., Pavlovich, K. (2006), Sustainability practices of SMEs: the case of NZ, *Business Strategy and the Environment- Special Issue: Sustainability Reporting*, 15 (4),242-257.

- Lepoutre, J. (2006), *Small business sustainable entrepreneurship: a competence-based perspective*. Paper presented at the conference of the International Association for Business in Society, Mérida, Mexico, March, 22-26.
- Longo, M., Bonoli, A., Mura, M. (2005), Corporate Social Responsibility and Corporate Performance: The Case of SMEs'. *Corporate Governance* 5 (4), 28-42.
- Maass, F. (2006), *Integrating Corporate Citizenship into Corporate Strategy: Empirical evidence on SMEs in Germany*. International Conference on The Social Responsibility of Small and Medium Sized Enterprises, Integration of CSR into SMEs Business Practices, Copenhagen, 26 October.
- McKeiver, C., Gadenne, D. (2005), Environmental Management Systems in Small and Medium Businesses, *International Small Business Journal*, 23(5), 513-537.
- Merrit, Q. (1998), EM into SME won't go? Attitudes, Awareness and Practices in the London Borough of Croydon, *Business Strategy and the Environment*, 7(2), 90-100.
- Molteni, M., Lucchini M.(2004), *I modelli di responsabilità sociale nelle imprese italiane*. Milano: F. Angeli.
- Molteni, M., Antoldi, F., Todisco, A. (2006), *SMEs and Corporate Social Responsibility: an empirical survey in Italian industrial district*. International Conference on The Social Responsibility of Small and Medium Sized Enterprises. Integration of CSR into SMEs Business Practices. Copenhagen, 26 October.
- NetRegs, (2007), SME-nvironment UK, [www.netregs.gov.uk](http://www.netregs.gov.uk).
- Neuman, W.L. (2000), *Social research methods*. London: Allyn & Bacon, 2<sup>nd</sup> Ed..
- Ørskov, E. (2006), *Green Network – a Showcase for Working with CSR in SMEs*. EABIS/CBS International Conference, Copenhagen, 26 October.
- Patton, M.,Q. (2002), *Qualitative research & evaluation methods*. Thousand Oaks, CA: Sage Publications, 3<sup>rd</sup> Ed..
- Pellicano, M. (eds) (2004), *Il governo strategico dell'impresa*. Torino: Giappichelli, Editore.
- Pellicano, M., Ciasullo. M.,V. (2010) (eds), *La visione strategica dell'impresa*. Torino: Giappichelli, Editore.
- Perrini, F. (2006), SMEs and CSR Theory: Evidence and Implications from an Italian perspective, *Journal of Business Ethics*, 67 (3), 65-9.
- Perrini, F., Pogutz, S., Tencati, A. (2006), *Developing Corporate Social Responsibility. A European Perspective*. Cheltenham: Edward Elgar Publishing.
- Perrini, F., Russo, A., Tencati, A. (2007), CSR Strategies of SMEs and Large Firms. Evidence from Italy, *Journal of Business Ethics*, 74(3), 285-300.
- Perrini, F., Tencati, A., (2007), Stakeholder Management and Sustainability Evaluation and Reporting System (SERS): A New Corporate Performance Management Framework, in *Organizations and the Sustainability Mosaic: Crafting Long-Term Ecological and Societal Solutions*, a cura di Husted, B., Sharma, S., Starik, M., Volume 3, *Edward Elgar Series New Perspectives in Research on Corporate Sustainability*. Cheltenham, UK: Edward Elgar Publishing.
- Perrini, F., Tencati, A. (2008a), *Corporate social responsibility: un nuovo approccio strategico alla gestione d'impresa*. Milano: Egea
- Perrini, F., Tencati, A. (2008b), La responsabilità sociale d'impresa: strategia per l'impresa relazionale e innovazione per la sostenibilità, *Sinergie*, n.77, 23-43.
- Perrini, F., Russo, A., Tencati, A., Vurro, C., (2009), Going Beyond a Long- Lasting Debate: What Is Behing the Relationship between Corporate Social and Financial Performance?, *European Academy For Business In Society* (Ed.), *Corporate Responsibility, Market Valuation and Measuring the Financial and Non-Financial Performance of the Firm*, *Cranfield School Of Management*, SDA Bocconi, Vlerick Leuven Gent Business Schools.
- Perrini, F., Minoja, M. (2010), Strategizing corporate social responsibility: evidence from an Italian medium-sized. Family-owned company, *Business Ethics: A European Review*, 17, 47-63.

- Perrini, F., Vurro, C. (2010), Corporate Sustainability, Intangible Assets Accumulation and Competitive Advantage, *Symphonia, Emerging Issues in Management*, 2.
- Pettigrew, A. (1990), Longitudinal field research on change: theory and practice, *Organization Science*, 1(3), 267-292.
- Petts, J., Herd, A., Gerrard, S., Horne, C. (1999), The Climate and Culture of Environmental Compliance within SMEs, *Business Strategy and the Environment*, 8(1), 14-30.
- Porter, M.E., Kramer, R.M. (2002), The competitive advantage of corporate philanthropy, *Harvard Business Review*, 80(12), 56-68.
- Porter, M.E., Kramer, M. (2006), Strategy and Society: The link between competitive advantage and corporate social responsibility, *Harvard Business Review*, 84 (12), 78-92.
- Prahalad, C.K. (2005), *The fortune at the bottom of the pyramid*, Pearson Education, Inc., Publishing as Warthon School Publishing, Upple Side River, NJ.
- Putnam, R. (2000), *Bowling Alone: The collapse and revival of American community*, Simon and Schuster, New York.
- Revell, A., R., Blackburn (2007), A Business Case for Sustainability? An Examination of Small Firms in the UK's Construction and Restaurant Sector, *Business Strategy and the Environment*, 16, 404-420.
- Ryan, B., Scapens, R., Theobald, M. (2002), *Research method and methodology in finance and accounting*. London: Thomson, 142-143.
- Rullani, E., (2010), *Modernità sostenibile. Idee, filiere e servizi per uscire dalla crisi*. Venezia: Marsilio Editori.
- Rutherford, R., Blackburn, R., Spence, L. (2000), Environmental Management and the Small Firm: An International Comparison, *International Journal of Entrepreneurial Behaviour and Research*, 6(6), 310-325.
- Sala, S., Castellani, V. (2011), *Significato e prospettive della sostenibilità*. Trento: Tangram Edizioni Scientifiche .
- Saunders, M., Lewis, P., Thornhill, A. (2003), *Research methods for business student*. London: Prentice Hall, 3<sup>rd</sup> Ed..
- Schaltegger, S., Wagner, M. (2011), Sustainable entrepreneurship and sustainability innovation: categories and interactions, *Business Strategy and the Environment*, 20(4), 222-237.
- Sciarelli, S. (2007), *Etica e responsabilità sociale nell'impresa*. Milano: Giuffrè.
- Semprini, A. (2003), *La società di flusso. Senso e identità nelle società contemporanee*. Milano: Franco Angeli.
- Senge, P. (1990), *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday Currency
- Sharma, S., Vredenburg, H. (1998), Proactive Corporate Environmental Strategy and the Development of Competitively Valuable Organizational Capabilities, *Strategic Management Journal*, 19(8), 729-753.
- Sharma, S. (2003), Research in corporate sustainability: what really matters? In Sharma, S., Starik M. (eds), *Research in Corporate Sustainability: the Evolving Theory and Practice of Organizations in the Natural Environment*. Elgar: Cheltenham, 1-29.
- Sharma, S., Ruud, A. (2003), On the path to sustainability: integrating social dimensions into the research and practice of environmental management, *Business Strategy and the Environment*, 12(4), 205-214.
- Shrivastava, P. (1995), The role of corporations in achieving ecological sustainability, *The Academy of Management Review*, 20(4), 936-960.
- Silverman, D. (2001), *Interpreting qualitative data: Methods for analysing talk, text and interaction*, London:, Sage, 2<sup>nd</sup> edition

- Spence, L. (1999). Does size matter? The state of the art in small business ethics, *Business Ethics: A European Review*, 8 (3), 163-174.
- Spence, L. J., Lozano, J. F. (2000), Communicating about ethics with small firms: Experiences from the UK and Spain, *Journal of Business Ethics*, 27(1), 43-53.
- Spence, L.J., Rutherford, R. (2003), Small Business and Empirical Perspectives in Business Ethics: Editorial, *Journal of Business Ethics*, 47(1), 1-5.
- Spence, L.J., Schmidpeter, R. (2003). SMEs, social capital and the common good, *Journal of Business Ethics*, 45 (1-2), 93-108.
- Subramaniam, M., Youndt, M.A. (2005), The influence of the intellectual capital on the nature of the innovative capabilities, *Academy of Management Journal*, 48 (3), 450-464.
- Tencati, A., (2007), Insostenibilità del sistema economico mondiale, responsabilità sociale e nuovi modelli di sviluppo locale, in R., Benini (eds), *L'impresa responsabile e la comunità intraprendente. Responsabilità sociale, territorio e piccole imprese in rete*. Halley Editors.
- Tilley, F. (2000), Small Firm Environmental Ethics. How Deep Do They Go?, *Business Ethics: A European Review*, 9 (1), 31-41.
- Unicredit, (2009-2010), *The small enterprise and the recovery of economic system*, VI Ed.
- van Marrewijk, M. (2003), Concepts and definitions of CSR and corporate sustainability: between agency and communion, *Journal of Business Ethics*, 44(2/3), 95-105.
- van Marrewijk, M., Werre, M. (2003), Multiple Levels of Corporate Sustainability, *Journal of Business Ethics*, Volume 44 (2-3), 107-119.
- Vyakarnam, S., Bailey, A., Myers, A., & Burnett, D. (1997), Towards an understanding of ethical behaviour in small firms, *Journal of Business Ethics*, 16 (15), 1625-1636.
- Waddock, S., Graves S., B. (1997), The Corporate Social Performance - Financial Performance Link, *Strategic Management Journal*, 18(4), 303-319.
- WECD, (1987), *Our Common Future*. Oxford: Oxford University Press.
- WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT (WCED) (1987), *Our Common Future*, Oxford: Oxford University Press.
- Yin, R.K. (1994), *Case Study Research*. London: Sage Publications, 2<sup>nd</sup> Ed..
- Yin, R.K. (2003). *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications, 2<sup>nd</sup> Ed..
- Young, W., Tilley, F., (2006), Can businesses move beyond efficiency? The shift toward effectiveness and equity in the corporate sustainability debate, *Business Strategy and the Environment*, 15(6), 402-415.

# **IDENTIFYING OPPORTUNITY GAPS IN THE QUEST FOR EXCELLENCE**

by  
Dr Graeme Cocks

**Contact Details:** Associate Professor in Management  
Melbourne Business School  
The University of Melbourne  
200 Leicester Street  
Carlton  
Victoria 3053  
Australia  
Email: [g.cocks@mbs.edu](mailto:g.cocks@mbs.edu)

## **ABSTRACT**

Recent collaborative work by the author focused on identifying the characteristics of eleven of Australia's long term high performing organisations over the 25 year period from 1982 to 2007. The detailed research outcomes have been published in a book titled "*The First XI: Winning Organisations in Australia*" which has been widely acclaimed by Australian executives as highly beneficial in understanding the concepts of best practice and business excellence - ones that they can use within their organisations to better communicate a sense of urgency for business improvement and to refine their strategic planning process. The results are summarised as a "Winning Wheel" framework that highlights the essential building blocks for organisational excellence.

In response to requests from senior executives, the author has recently conducted a series of pilot studies to establish methodologies to effectively apply this framework to organisations in a wide range of industry sectors. One of the more successful approaches involves using a web-based self-assessment questionnaire based on the framework. This generates valuable data that can be used for benchmarking purposes and to identify priority areas for improvement at the operational level. Some of the preliminary results from these pilot trials will be outlined in this presentation together with the rationale for using the framework as an appropriate model for defining business excellence.



# **1 DEFINING ORGANISATIONAL EXCELLENCE**

## **1.1 The Search for Excellence**

The author was a member of a research team that originally investigated whether the concepts from other milestone studies in the USA - in particular *In Search of Excellence* by Peters and Waterman (1982), *Built to Last* by Collins and Porras (1994) and *Good to Great* by Collins (2001) - were directly transferrable to the Australian culture and business landscape. Together with several other national initiatives such as the Australian Business Excellence Framework (2011), these overseas studies have strongly influenced management thinking about “excellence” in Australia. The primary aim of the original research was to explore some of the widely accepted elements of “excellence” and to identify the successful practices used by winning organisations in Australia. This work generated a framework for defining organisational excellence and was published in the book by Hubbard et al., (2007).

The research took four years to complete and covered a 25-year period from 1982 to 2007 for all eleven organisations. Over 1000 executives of medium to large organisations were asked to nominate their views of the most successful organisations in Australia. ‘Success’ was defined as taking a balanced scorecard perspective covering financial, customer and market performance, internal efficiency and long term growth, innovation and productivity issues. The research team first analysed and agreed on the basis of success of each organisation. Then common principles were identified and finally, executives with long experience in the organisations were interviewed to gather insights on these causes of success to further validate the common principles.

Over the 25 year period, these winning organisations substantially outperformed the All Ordinaries Accumulation Index, although financial performance was only one of the selection criteria. They represent a very broad range of industries such as banking and financial services, resource exploration and mining, property development, retail, telecommunications and transport and the not-for-profit sector. The study included several organisations that were not publically listed and two Government organisations that were privatised during the period, providing support for the view that ‘winning’ is not confined simply to listed or privately owned organisations. The breadth of this sample suggests that the practices of these organisations contribute to their winning status rather than them being in a winning industry. The study also took a balanced scorecard approach to the definition of success, rather than simply a financial approach. While the organisations did well financially, the research took a balanced view in terms of measurement and assessment of performance – and so did the organisations themselves.

Several current myths of success were dispelled by the research. It was found that winning is not about vision or mission statements, big hairy audacious goals, great breakthrough ideas, organisational structure, marketing promotion or high remuneration levels. More significantly, the research revealed a number of underpinning characteristics that account for the high performance of these organisations over the long term.

## **1.2 The Winning Wheel Framework**

The nine elements of success that have been identified are:

1. *Effective Execution.* Winning organisations do what they say. They announce what they plan to do, they plan and budget for it and they meet the plans and the budgets. To do this, they have clear processes that are accepted within the organisation. They have good control systems, people take personal responsibility for their work and they rigorously measure performance. They learn from their mistakes and they do not cross-subsidise business units. Every unit has to pay its way.

2. *Perfect Alignment.* While seemingly impossible, winning organisations actually believe they can achieve this. Practising a culture of continuous improvement, they use measurement and systems as the critical foundation for alignment. They seek to align culture, leadership, people and perceptions to strategy. Alignment is to external needs as well as internal forces.

3. *Adapt Rapidly.* Times change so that even if perfect alignment is achieved, it will have to be changed, and changed rapidly. Flexibility is a key but change comes with control and is continuous. Innovation is sought in process as well as in products and services.

4. *Clear and Fuzzy Strategy.* Winning organisations have a clear strategy, though it can be expressed in many ways and does not necessarily exist through a vision or mission statement. But there is a fuzziness at the edges of the strategy. Winning organisations are always seeking to take advantage of incremental opportunities, even if they lie just outside their current clear strategy.

5. *Leadership, Not Leaders.* Leadership is about teams of leaders. Leaders set up an emotional 'cause' for the organisation, a reason for existence. Leaders exhibit 'captain-coach' styles. They are available, egalitarian, supporting their people from close by, not setting difficult challenges from afar. The vast majority of leaders come from within winning organisations and have been with the organisation for nearly twice the industry average.

6. *Looking Out, Looking In.* Winning organisations are externally and internally focussed. They are aware not just of customers, but of their environment, their community, their international industry and international trends. They build long term relationships and see governments and regulators as forces to be managed, not ignored.

7. *Right People.* Winning organisations hire people who believe in their 'cause', whose values and attitudes fit, not the 'best' people who demand the highest pay. People who don't fit are actively managed out of the organisation quickly. People who work in winning organisations are committed and proud though they won't sing the organisation's praises too loudly, in true Australian egalitarian style.

8. *Manage the Downside.* Despite rapid growth, innovation and looking outwards, winning organisations are conservative. They plan carefully beforehand, considering the downside, not just the upside, of major decisions. They seek to share risks with other organisations, customers and their people.

9. *Balance Everything.* Rather than trying to choose between alternatives, winning organisations choose both. For instance, while they are conservative, they are also entrepreneurial. While focussing on the long term, they also focus on the short term. While focussing on financials, they also focus on delivering value to customers, employees and the community. While working in teams, people are individually responsible.

The Winning Wheel framework (Figure 1) shows how these nine elements fit together and are connected to make the wheel operate and steer the organisation towards its mission and goals. The power of the model lies in its integrative approach - there is no "start" or "finish" to the wheel. All elements need to be in place and are linked together – change in one precipitates change to others. Success is based on superior execution of all elements in the winning framework to deliver results.

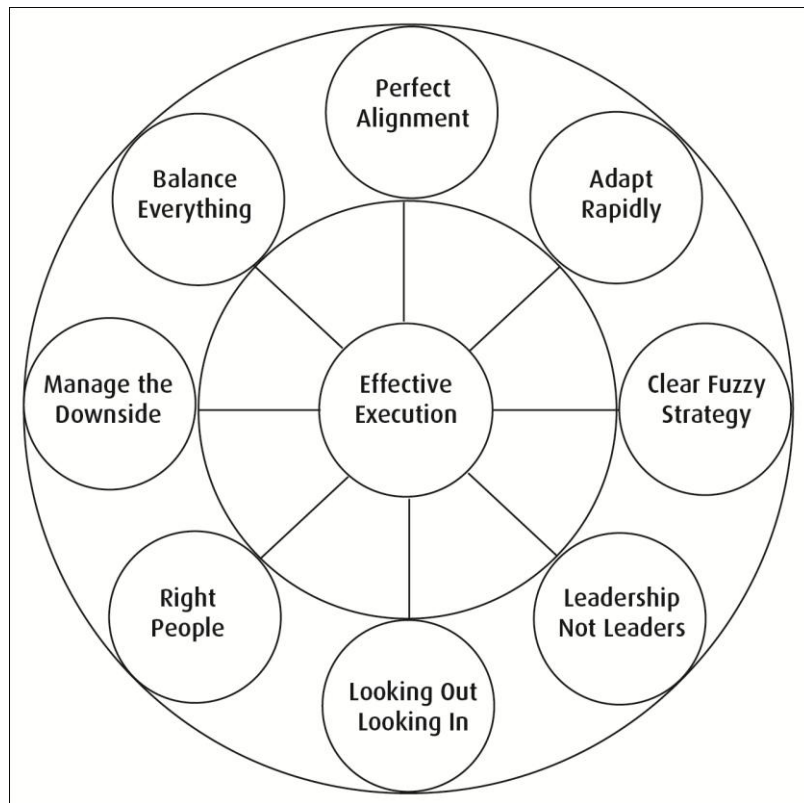


Figure 1: The Winning Wheel Framework

The research identified effective execution of plans and strategies as the pivotal element of success. Understanding what it takes to be a winning organisation starts with execution. Conventional wisdom might suggest this should be one of the last elements and perhaps even the end result of doing everything else well. When developing the framework the temptation was to regard strategy formulation or perhaps leadership as the logical starting point. But in an effort to answer the fundamental question, “What really makes these organisations different from others?”, it was recognised that it was the results that they delivered that caused success. The organisations were therefore chosen on the basis of their results. It is effective execution that enables them to deliver these results and that is what makes them unique.

## 2. THE PATHWAY TO A WINNING PERFORMANCE

Release of the book *“The First XI; Winning Organisations in Australia”* (2007), which presented the research findings and described the Winning Wheel framework, generated widespread acclaim and positive endorsement from executives in the business community as well as from consultancies, educational institutions and support networks (such as business groups and industry associations) in Australia. The findings were commended for their practical and common-sense messages but did raise further questions - virtually all related to how the framework could be implemented in organisations to drive improvement and support their quest for excellence and improved competitiveness. In order to address this challenge, the author has worked with a team of developers in the UK (TAUK 2010) to trial a sophisticated web-based diagnostic survey whose purpose is to allow decision makers to rapidly and effectively self assess and benchmark their organisation’s performance against the best practices identified in the original research.

Figure 2 describes this process in more detail. Starting with the Winning Framework, the first step is for the organisation to undertake a rigorous self assessment using the diagnostic questions and tools described in Section 2.1. Self assessment is a well known management practice that is widely adopted, particularly in the context of national business excellence and quality awards literature – for example the Malcolm Baldrige Awards in the USA, EFQM Excellence Model in Europe and Business Excellence Awards in Australia. It can best be defined as a cyclic, comprehensive, systematic and regular review of an organisation’s activities and results against a model of business excellence culminating in planned improvement activities (see for example, Australian Business Excellence Framework, 2011).

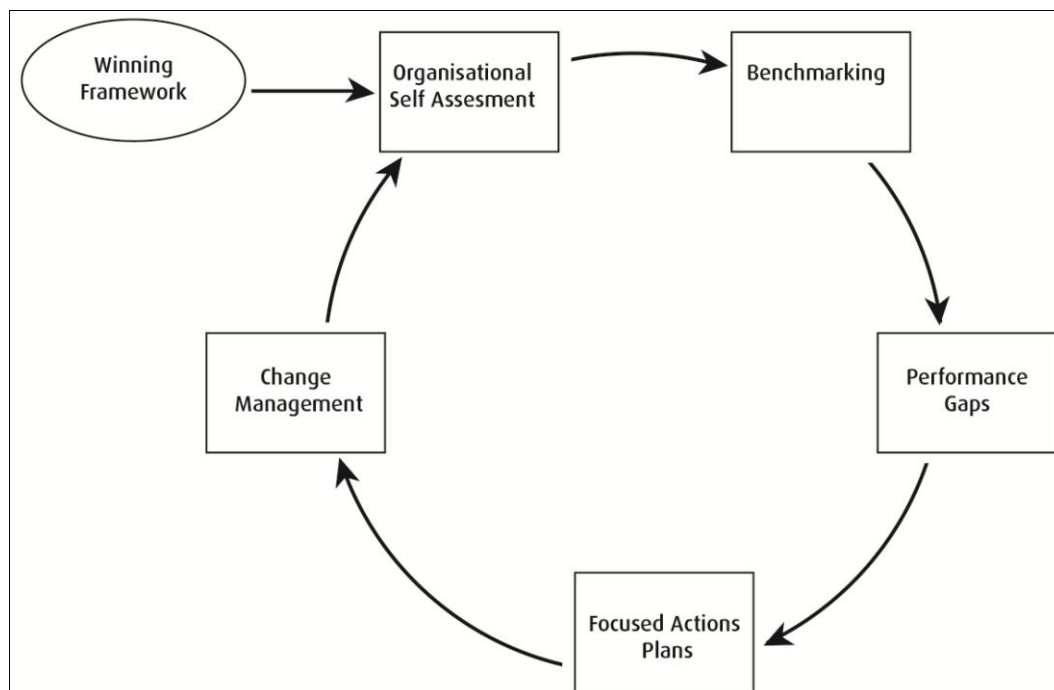


Figure 2 The Continuous Improvement Journey – Finding the Performance Gaps

Outputs from this assessment can then be compared to the practices that are embodied in the Winning Wheel framework – these are defined as the benchmarks. Benchmarking can be viewed as a continuous process of measuring products, services and practices against the toughest competitors or those organisations that are recognised as industry leaders. Camp (1989) describes benchmarking more simply as the search for industry best practices that lead to superior performance. Benchmarking therefore allows the major improvement gaps to be identified - those that lead to action plans that should improve organisational performance by focusing resources and management attention on key areas of importance. An alternative approach is to simply adopt a broadly based approach to improvement and change management by resorting to the plethora of management fads and acronyms that constantly permeate the management discipline and evolving literature. Leaders in winning organisations do not resort to this unfocussed approach but adopt their own customised methodology for change management – one that is carefully considered and planned, unique to the culture and strategies of their organisation and only integrates the fads and acronyms in a selective and appropriate fashion. Of course, the process does not finish at this point. As implied in Figure 2, the pathway to excellence is a journey without a destination and the entire cycle should be repeated regularly – typically annually as part of the strategic planning process.

## **2.1 The Diagnostic Tools**

The web-based diagnostic survey and tools provide the missing link between the framework itself and the self assessment stage. The survey consists of 90 detailed questions drawn from each of the 9 elements in the Winning Wheel framework. Each question expects respondents to rank their answer on a scale 1 (low) to 7 (high) according to their views on both “Performance” and “Importance” to their organisation. This design allows for simultaneous rankings and gives more finesse and relevance to the final analysis and reporting stage. The questionnaire also allows for qualitative feedback from respondents to provide an opportunity to gather personal input on issues that are either not covered directly in the diagnostic questions or which are difficult to quantify and rank. Further information on the on-line diagnostic program is available from Taylored Assessments UK Ltd. (TAUK 2011).

## **2.2 Implementing the Diagnostics**

The diagnostic surveys and reports are targeted at those people within an organisation, who collectively, should know most about how their organisation is currently performing and who have decision making responsibilities at both the strategic and operational functions of the organisation. Therefore, the diagnostics should be completed by the CEO and direct reports to the CEO (the Executive Level) and the next level of management and optionally, but very importantly, members of the Board of Directors. These executives are in the best position to provide objective input for the organisational - wide performance analysis. Ultimately it is this group that will formulate action plans to focus on future success and ensure strategic alignment.

The survey should also engage people from throughout the organisation to provide more accurate data about operational issues and to ensure their involvement and buy-in to the change process. Therefore it should ideally be run with multiple levels of management and a large representative group of operational personnel from the front-line level, drawn from numerous departments and business units and in different locations where appropriate. Most importantly, individual responses and comments are treated confidentially. The outcomes of the diagnostic surveys identify “whole of organisation” strengths, weaknesses and sustainability factors in the first instance. Thereafter, reports can be generated for any level, division or business unit to facilitate internal benchmarking.

### 3. RESULTS FROM FIELD TRIALS

#### 3.1 A Working Example

Initial trials of the diagnostic tools have been conducted in several organisations from the health care, education and retail sectors together with many individual responses and some from small to medium enterprises. For the purposes of illustration, Figure 3 shows a hypothetical result compiled from aggregate data from a survey of 200 respondents in a large company.

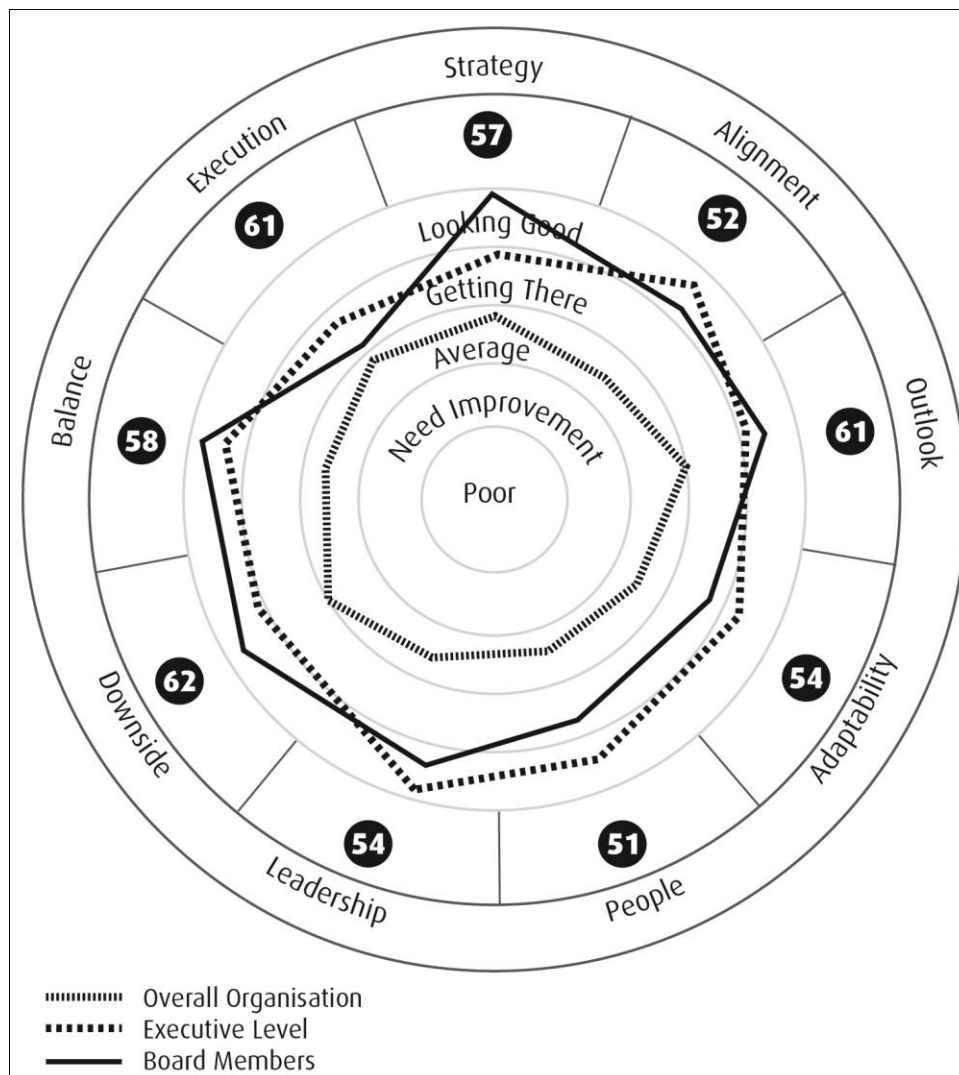


Figure 3 Total Organisational Results

While there is a multitude of charts, tables and diagrams to represent the survey data in the reports, this “radar map” gives a snapshot of the overall organisational perspective and is a useful starting point for discussion at the Executive and Board level.

In this example, several interesting observations can be made:

1. Major imbalances around the Winning Wheel are immediately obvious.
2. The Board and Executives are reasonably consistent but rank performance much higher than the Overall Organisation. Clearly there is a major gap between those in the leadership “strategy formulation” roles compared with those with more operational “strategy execution” responsibilities. This disconnect is a very common observation and has major implications for achieving a winning performance (Cocks, 2010).
3. The Board ranks downside, balance, strategy and outlook more highly than execution and the remaining 4 elements. This is perhaps not that surprising given their responsibilities and perceptions but this narrow focus might limit their judgment about the adverse impact of poor performance in the other elements of the framework.
4. The Executive Level ranks their leadership performance slightly higher than the Board’s perception of leadership and much higher than the bulk of the organisation that includes operational personnel and front line operators. This organisation suffers from a leadership void which needs to be recognised and addressed. Similar comments can be made from the data in the strategy element of the framework.
5. The data raises a number of specific questions about responses within each element and between the elements according to the participant’s level in the organisation. These variations and gaps provide fact based data for discussion rather than relying on subjective views and opinions.

### **3.2 Analysing the Data in Detail**

The data can be sorted in a wide range of alternatives such as by business unit, function, demographics, areas of most concern, elements in the Winning Wheel framework and variations within responses to each question in the survey. The starting point is to plot the results on the Winning Wheel (as in Figure 3) and include the benchmarks from the winning organisations that are derived from the original research. Detailed analysis then follows – for example a powerful indicator is the “opportunity gap” which is defined as the difference between the “Performance” and “Importance” percentages. These gaps are then presented in matrix form, ranked and prioritised. The objective is to identify the largest gaps which, in the spirit of continuous improvement, should be treated as the most significant opportunities rather than viewed as major problem areas.

Table I lists an example of the worst performing questions (33 – 43%) in order of value and notes the corresponding element in the Winning Wheel framework.

Element	Survey Statement Our Organisation...	Performance % Score	Importance % Rating	Opportunity Gap (-/+)	
Adaption	Is set up to do things quickly	33	77	-44	↓
Strategy	Strategy “hooks’ people emotionally	34	83	-49	↓
Alignment	Measures performance rigorously	36	79	-43	↓
People	Provides timely feedback	36	83	-47	↓
Execution	Has clear processes that are accepted	38	85	-47	↓
Risks	Has excellent reporting systems	42	76	-34	↓
People	Rewards performance based on outcomes	43	74	-31	↓

Table I Prioritising the Opportunity Gaps

The data on performance is useful in itself but becomes much more valuable when the corresponding importance percentages are taken into account – now the opportunity gaps are revealed and these are quite different in their magnitude and ranking than if just the performance rankings were considered. For example the question “Has clear processes that are accepted” ranks 38% in performance but ranks equal second (47%) when measured as an opportunity. This demonstrates the power of the bivariant approach over a linear one based solely on “Performance” or “Importance”. Both “Performance” and “Importance” need to be considered simultaneously to extract maximum value from the questionnaire and decide on the critical elements that need to be addressed rather than reacting to the lowest performing areas as the starting point.

This important observation is reinforced when the next step in the journey towards excellence is contemplated – the development of focussed action plans to capitalise on the major opportunities for improvement. A revealing way to visualise these priorities is via a heat map (Figure 4) that profiles each of the survey questions on a matrix of “Performance” versus “Importance”.



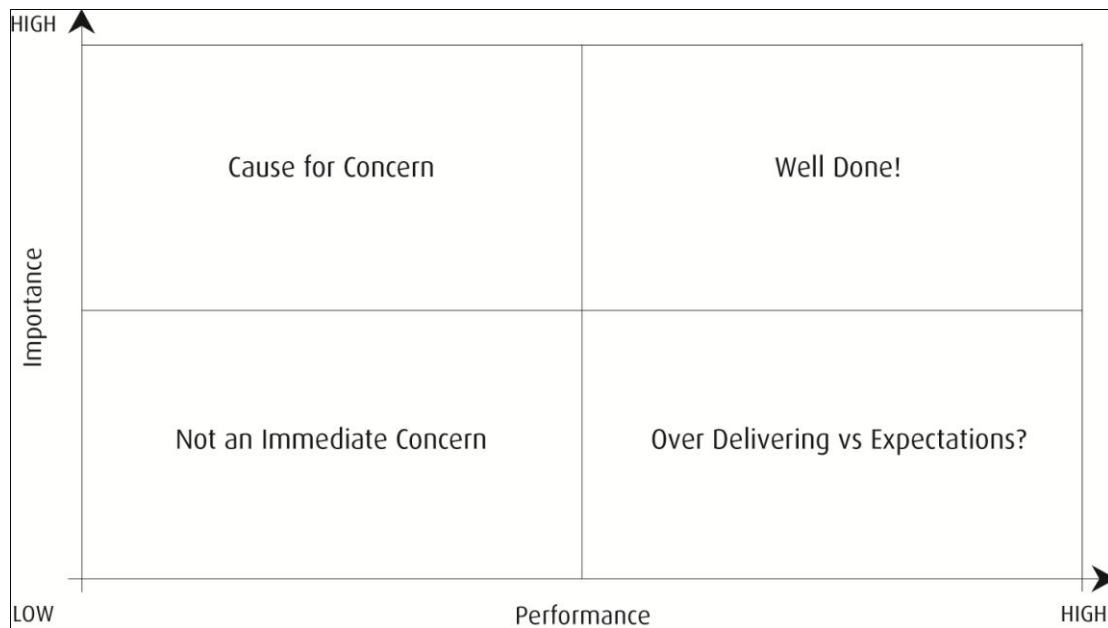


Figure 4 Mapping the Results – Action Plans

Those issues that fall into the low performance/high importance quadrant are the ones that require urgent attention through management attention and focussed action planning. Trying to tackle all the issues simultaneously dissipates resources and the change process is cumbersome and often loses momentum – especially if the issues have been deemed through the analysis to be ones lying in the high performance/low importance quadrant. Here, there is a risk over delivering against expectations or strategic requirements.

#### 4 KEY OBSERVATIONS AND CONCLUSION

This research has revealed the potential to use the Winning Wheel framework as an appropriate model for defining business excellence beyond the original research that was limited to 11 large Australian organisations. The next stages present many challenges but the initial trials suggest that the framework can be deployed through a pragmatic methodology that offers organisations an effective pathway to self assess their performance and identify gaps – or opportunities – to accelerate their change management programs in line with strategic imperatives. The user data base and the current systems are an effective way for organisations to undertake internal benchmarking using the on-line diagnostic tools and reports. The trials to date have explored alternatives to analyse and segment the data in the most effective ways and to explore novel ways to report the data. Feedback indicates that the radar map (Figure 1) and the bivariant “Performance”/”Importance” analysis (Figure 4) are particularly appealing to the executive suite and decision makers in a broad range of organisational sizes and industry sectors. A major advantage is the speed with which the data can be gathered without the need for a consultant’s intervention, face to face delivery or workshops – each respondent takes on average only about 30 minutes to complete the survey.

An interesting point to emerge from the initial survey results is that some respondents assume that winning organisations perform well in all of the elements in the framework all of the time. This is an incorrect assumption as these successful organisations have faced enormous challenges, made strategic mistakes and not performed consistently at peak levels during their entire journey to excellence. They have, however, recovered quickly from these mistakes and shortcomings and more importantly, learned from them largely because of their high alignment, ability to adapt rapidly and capability to effectively execute change and strategic initiatives. To this extent, the Winning Wheel framework represents an “ideal state” – one that defines excellence in all elements – and simultaneously. Arguably that represents an impossible condition in the real world but that should not diminish the desire and vision to strive to reach that condition. Becoming a winning organisation is a long and challenging journey but the rewards are worth the effort.

Future research will centre around building a benchmarking data base which should point to generic trends and issues confronting organisations that need more exploration and solutions. It is anticipated that over time this database should allow organisations to measure their performance against competitors or to extrapolate into best practice benchmarking in which comparisons are made irrespective of industry sector, location or business model.

The principles and success factors identified from the winning organisations and the corresponding diagnostic program described in this paper appear to provide leadership teams and individual leaders with practical concepts and an over arching model for the design and implementation of an effective organisational-wide performance management system. The process can be repeated to quantify and drive continuous improvement over time. It also provides a standardised methodology that is required for delivery of the organisation’s strategic plan and long term vision for organisational excellence.

## 5 REFERENCES

Australian Business Excellence Framework, <http://www.saiglobal> (2011).

Camp, R.C., (1989), *Benchmarking- The Search for Industry Best Practices that Lead to Superior Performance*, ASQC Quality Press, USA.

Cocks, G.J., (2010), “Emerging Concepts for Implementing Strategy”, *The TQM Journal*, Vol. 22, No. 3.

Collins, J. and Porras, J. (1994), *Built to Last: Successful Habits of Visionary Companies*, Random House, London, England.

Collins, J. (2001), *Good to Great*, Harperbusiness, New York, NY.

Hubbard, G., Samuel, D., Cocks, G., and Heap, S., (2007), *The First XI: Winning Organisations in Australia*, John Wiley, Australia.

Peters, T. and Waterman, R. (1982), *In Search of Excellence: Lessons from America’s Best-run Companies*, Harper and Row, New York, NY.

TAUK, Taylored Assessments (UK) Ltd., [www.taylored-assessments.net](http://www.taylored-assessments.net) (2011).



# COMPETENCE GAPS IN COMPANY DIRECTORS IN NEW ZEALAND

Associate Professor Graeme Cocks, Melbourne Business School,  
Melbourne, Australia  
[G.Cocks@mbs.edu](mailto:G.Cocks@mbs.edu)

Associate Professor Jens Mueller, University of Waikato Management School,  
Hamilton, New Zealand  
[m@usainfo.net](mailto:m@usainfo.net)

Associate Professor Coral Ingle, Auckland University of Technology,  
Auckland, New Zealand  
[coral.ingley@aut.ac.nz](mailto:coral.ingley@aut.ac.nz)

Professor Morina Rennie, University of Regina,  
Regina, Canada  
[Morina.Rennie@uregina.ca](mailto:Morina.Rennie@uregina.ca)

Authors' contact address:  
Jens Mueller, PO Box 3100, Tauranga 3142, New Zealand

[m@usainfo.net](mailto:m@usainfo.net)  
Jens Mueller, PO Box 3100, Tauranga 3142, New Zealand

# COMPETENCE GAPS IN COMPANY DIRECTORS IN NEW ZEALAND

## Abstract

The well-published downturns of presumably stellar organizations worldwide, from Enron and WorldCom in the USA, Siemens in Germany, Satyam in India, San Lu in China through to South Canterbury Finance Corporation in New Zealand has created the foundation for a growing interest in corporate governance and the accountability and importance of directors. Many of the arguments now proposed for a greater focus on governance were advanced long before these high-profile cases emerged, but it is a reality that governance has now moved to a more central role when debating firms' performance and leaders' accountabilities in the future. Aside from the popular headline-grabbing discussion, e.g. for Feltex in New Zealand, or what individual directors did - or did not do - to advance their firms' fortunes, it is clear that directors occupy a central position in the development of long-term strategies for a sustainable future of enterprises.

Through effective governance strategies, owners seek to limit managerial 'opportunism' and prioritise owner and equity holder interests that, themselves, may have inherent conflicts due to differences in their prioritization of long-term stakeholder interests. A key strategy to marginalize potentially overbearing self-interest of management is for governance to involve a board of directors to represent the owners' interests and instruct and evaluate management's performance (Jensen and Meckling, 1976; Fama and Jensen, 1983 as cited in Cocks, Rennie, Ingley and Mueller, 2010). Moreover, a firm's owners may not be in accord amongst themselves in their priorities and interests (Cocks et al., 2010). These authors define the agency relationship as one where a group of heterogeneous owners, of which each may have conflicting interests and priorities, entrusts the firm's success to a managerial body. Thus, it is even more important that governance strategies are put in place to protect the interests of not just single owners but also multiple owners, each of whom may have somewhat unique interests. In summary, our current economic climate has placed more emphasis on the importance of governance,

especially in relation to the separation between the owners' interests and those of management.

We have collected self-evaluations from more than 700 company directors in New Zealand over 5 years (2006-2010) to determine whether these directors are qualified to perform such elevated governance services. In key functional areas of corporate governance, such as understanding corporate strategy, being knowledgeable about legal requirements, having leadership skills and being able to work in a team, directors indicate significantly lower competency score than in the only other area - "Commitment" - where the self-reported competence level is much higher.

We believe this raises significant issues of how directors can be upskilled in functional governance performance areas, or whether there is another pool of more qualified directors available from which firms can satisfy their demand for better governance. Being very 'committed' to otherwise perform at quite an average competence level cannot be the best solution to infusing better governance skills in our organizations.

### **Background**

As noted above, the recent financial downturn and the subsequent demise of many companies have highlighted the importance of good corporate governance (Bhimani, 2008). For many years, legislation around corporate conduct has stipulated direct and/or indirect compliance requirements for businesses in many developed countries. These have increased in number since the accounting scandals at the beginning of the millennium (Abdel – Kahlik, 2002; Benston and Hartgraves, 2002). Changes to corporate governance legislation include adjustments to the auditing process, refining financial reporting standards, strengthening internal managerial controls, monitoring compensation packages and observing online security and other technology standards. In 2002, Canada's Ontario Securities Commission passed Bill 198 aimed at achieving 'better corporate governance' (Ferris, 2007, p. 31). Generally, the requirements of corporate governance legislation are aimed at encouraging ethical corporate behaviour.

Mainly, corporate governance research addresses the issue of formulating and implementing codes of business practice that protect the interests of passive shareholders (Aguilera and Jackson, 2003). In fact, the protection of owners/shareholders interests is often woven into the definition of good corporate governance: 'If we follow the traditional Anglo-American conception of the firm as a device to further the well-being of its owner-shareholders, good governance is a matter of ensuring that decisions are taken and implemented in pursuit of shareholder value' (Keasey, Short a& Wright, 2005, p. 2). The definition of corporate governance in international research is greatly influenced by US formulations of corporate governance which thus raises the issue of the extent to which these governance-related rules are an appropriate fit for the rest of the world and for New Zealand. US definitions of corporate governance are based upon agency theory and managerial capitalism and are largely preoccupied with structuring governance codes of practice to ensure that managers act in the interest of the owners and shareholders rather than their own best interests (Shleifer and Vishney, 1997).

A recent definition of corporate governance is given by Colley, Stettinius, Doyle and Logan, (2005, p.5), 'Today, the public corporation itself operates as a form of representative government. The owners (shareholders) elect directors as their representatives to manage the affairs of the business. The directors, who as a group are referred to as the board of directors, then delegate responsibility for actual operations to the Chief Executive Officer (CEO),whom they hire. The CEO is accountable to the board of directors, which, collectively and individually, is accountable to the shareholders. In addition to its role in selecting the CEO, the board also advises on and consents to the selection of business and strategies of the firm, as well as oversee results. In sum, this system of authoritative direction, or government, is known as corporate governance'.

The Financial Reporting Council combined code of 1998 (revised in 2006 and again in 2009) combines the main tenets of the Cadbury Report, the Hampel Report and the Greenbury Report. Each listed company was required to disclose how they formulated and structured corporate governance, and out of this report came a set of best practice principles. The influence of agency theory and a focus on owner/control separation is

clearly seen in the following three principles of the combined code (FRC, 2006). For example:

A. 'Every company should be headed by an effective board which is collectively responsible for the success of the company'.

It is the responsibility of the board to lead the company with appropriate controls to assess and manage risk. The board should formulate the strategic aims of the firm and make sure that the necessary financial and human resources are in place for the achievement of the firm's objectives. 'The board should set the firm's standards and values and ensure that its obligations to its shareholders are understood and met'. Furthermore, all courses of action and decisions that directors take ought to be in the interests of the company. Also stated in this principle is the board's responsibility to hire and dismiss CEOs where necessary.

B. 'There should be a clear division of responsibilities at the head of the company between the running of the board and the executive responsibility for the running of the company's business. No one individual should have unfettered powers of decision'.

The chairperson of the board leads the board and ensures the board meets all its objectives. The chairperson also acts as a source of information for the directors and must make sure that the directors are kept well informed in a timely manner on significant aspects of company business. Reports to the director must be clear and accurate. The chairperson must also liaise with the owners/shareholders and maintain clear lines of communication with them. The individual roles of the chairperson and the firm's CEO must be agreed by the board, put into writing, and clearly delineated and understood. A CEO must not become the chairperson of the board at any time unless major shareholders are consulted in advance.

C. 'The board should include a balance of executive and non-executive



directors (and in particular independent non-executive directors) such that no individual or small group of individuals can dominate the board's decision making'. To prevent the board's decision making from being dominated by one person, the board should include both executive and non-executive directors. The board must ensure that the director is independent in character and judgement and consider the significance of any potential conflicts of interests such as any director having been employed by the firm in the last five years or representing a significant shareholder.

### **Board Composition**

The traditional view of the board of directors is of a group of individuals (traditionally middle-aged men) with significant experience in the market within which that company operates and with significant experience of the workings of that company. Consequently, the membership of such boards was also traditionally and overwhelmingly constituted by insiders, who might include family members (if a family company) friends, professional advisors (lawyers or accountants) or substantial shareholders or their nominees. Even as late as the 1980s when the idea was more likely to be debated in political and business circles, the very notion that outsiders should be included was to some conservative thinkers an anathema. After all, what could such individuals possibly contribute to a company they didn't understand?

Consequently, such a presence was resisted in some other jurisdictions dominated by the Anglo-American model of a unitary board (having the roles of both supervision and management). Amongst those can be listed Australia and New Zealand as well as the United States and the UK. Critics of the idea cited a range of reasons for their position. Some objections to the idea of independent directors are likely to be very similar to those voiced 20 years ago. Inter alia, those include the fact that for many such directors their interests are artificial (lacking strong links between the company's wellbeing and their own) a characteristic that reduces their motivation to maximise performance; they may lack experience and understanding of the business environment; they may well have a seat on a range of boards, reducing loyalty and adversely affecting their focus on the company and its wellbeing. In addition, and depending on the individual, they may

perceive the position of director as a chance to strengthen or maintain social or business networks, affecting the degree to which they are truly independent.

Despite such objections, however, and as stated earlier, the independent director is a must for the boards of public companies in a range of jurisdictions, increasingly mandated or encouraged by legal and quasi-legal rules. As pointed out before, the OECD's promulgation of guidelines in 1999 was the first trans-national display of determination to have independent directors on the boards of Public companies. However, that does not mean it was the first move to promote their presence. In order to provide an overview of these earlier steps while not being too complicated, three exemplar legal/regulatory frameworks will be considered, these being in turn the UK, United States and Europe.

### **Board Competence Research Findings**

This research was designed to capture a broad cross-section of responses throughout New Zealand and for a period of several years. In order to reach New Zealand business of all sizes and industry classifications, the survey instrument was distributed to the client lists of several supporting organizations. Further supporting the argument that the discussion of 'Governance' is highly relevant in New Zealand, more than a dozen national organizations participated in the survey distribution, creating one of the largest data sets on governance in the country.

Using distributors from different industries and in many locations throughout New Zealand was intended to reduce bias in the sample group.

Distributing organizations were:

BNZ, ANZ, National Bank, Simpson Grierson, Business New Zealand, Employer and Manufacturers Association (Northern), Otago Southland Employers, PriceWaterhouseCoopers, 3 Media Group, Cameron Partners Investment Bankers, Swann Recruiting, The New Zealand Shareholders Association, Venture Taranaki, NZ Institute of Management, Unitec, Waikato Chamber of Commerce, Business Mentors of New Zealand, Employers and Manufacturers Association Central, Canterbury Employers

Chamber of Commerce, New Zealand Venture Capital Association, Ministry of Womens Affairs, Te Puni Kokori, Chartered Secretaries of New Zealand, Human Rights Commission, Crown Company Monitoring Advisory Unit, Waikato Management School.

More than 700 director responses were collected from New Zealand businesses, representing most industries and all sizes. Given that more than 98% of New Zealand businesses are SMEs, this survey is applicable mainly to SMEs.

A direct connector to the inclusion of independent directors in firms is their competence in matters relating to governance. Using the approach for directors to self-evaluate the performance of themselves and that of their fellow directors, with all replies being anonymous and thus more reliable, this research wishes to identify whether directors consider themselves above-average competent in areas which relate directly to the discharge of their governance duties.

When given the opportunity to select in which of the traditionally applicable governance skills areas directors were most competent (strategic leadership, finance/auditing, group decision making, commitment, etc.), directors in New Zealand firms Directors consider their level of commitment exceeds their level of competence in all other areas. More directors self-reported that they have 'excellent' "commitment" to their firms than directors in any of the other skills categories, for which the majority of directors only self-reported 'very good' skills. This raises issues as to the ability of SME directors to perform to an acceptable level in the key functional areas of governance. While "commitment" is a less tangible contribution and thus is easily over-interpreted, specific skills areas such as "finance/auditing", "strategic planning", etc. require detailed sub-skills that many directors do not seem to possess in abundance.

### **Conclusion**

We believe that the interest in independent directors may be tempered by their lack of skills commonly associated with governance competence. As the development of formal

boards for SMEs appears to accelerate, more directors will be required to perform to an increasingly demanding level of governance. Our research suggests the need to develop programs to upskill directors in functional governance performance areas, to make good use of the pool of directorship candidates. Being very 'committed' to otherwise perform at quite an average competence level cannot be the best best solution to infusing better governance skills in our organizations.

## **Bibliography**

Abdel-Khalik, A. (2002). Reforming corporate governance post Enron: Shareholders, Board of Trustees and the auditor. *Journal of Accounting and Public Policy*, 21, 97–103.

Aguilera, R., and Jackson, G. (2003). The cross-national diversity of corporate government: Dimensions and determinants. *Academy of Management Reviews*, 29(3), 447–485.

Cocks, G., Rennie, M., Ingle, C., Mueller, J. (2010). *Innovating from the top down: Sustaining better governance through reformed boards*.

Colley, J., Stettinius, W., Doyle, J., and Logan, G. (2005). *What is corporate governance?* London: McGraw Hill.

Fama, E. G., and Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26, 301–325.

Ferris, M. (2007). Applying bill 198. *CMA Management*, 81(4), 30–34.

FRC. (2003). The combined code on corporate governance. Retrieved June 2, 2010 from [http://www.ecgi.org/codes/documents/combined\\_code\\_final.pdf](http://www.ecgi.org/codes/documents/combined_code_final.pdf).

Jensen, M. C., and Meckling, W. H. (1976) Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305–360.

Keasey, K., Short, H., and Wright, M. (2005). The development of corporate governance codes in the UK. In K. Keasey, S. Thompson and M. Wright (Eds.), *Corporate governance*, (pp. 21–42). West Sussex, UK: Wiley

Shleifer, A., and Vishny, R. (1997). A survey of corporate governance. *The Journal of Finance*, 52, 737-783.

# **WORD OF MOUTH IN THE TOURISM INDUSTRY: AN EMPIRICAL INVESTIGATION OF SERVICE EXPERIENCE**

**Ilenia Confente**

Department of Business Economics,

University of Verona, Via dell'Artigliere 19, Verona, 37129 Italy

phone: +39-45-802-8219 - fax: +39-45-802-8488 - email: [ilenia.confente@univr.it](mailto:ilenia.confente@univr.it)

**Keywords:** Service experience, customer-to-customer interaction, Word of Mouth, tourism industry case study

**Submitted**

***14<sup>th</sup> Toulon-Verona/ICQSS Conference “Excellence in services”  
at the University of Alicante, Spain, on 1, 2 and 3 September 2011.***

## 1. Introduction

Word-of-mouth communication (WOM) is a dominant force in the marketplace for services and represents an important tool that firms are interested in measuring and controlling, as it might contribute to promote a specific product or service by customers (Glynn et al. 1999; Mangold and Miller, 1999; Harrison-Walker 2001). In addition, empirical studies investigating the antecedents of WOM, have found evidences about the direct effects of consumers' satisfaction and dissatisfaction on it, generated by previous purchasing experiences (Brown et al. 2005).

This paper seeks to investigate the relationship between previous service experiences within the tourism industry, particularly related to a hotel experience and its subsequent impact on consumers' word-of-mouth behavior.

Given the extensive research attention devoted to C2C, that is customer-to-customer interaction, another aspect that the paper will examine is the lack of a common view in the literature about online versus offline C2C activity. The difference between the two venues is under- explored, leading Godes et al. (2005) to ask whether the volume, valence, and content of online social interactions are acting as a proxy for their offline analogs. More research is needed to investigate and compare C2C interactions in online and off-line environment to better understand differences in the nature and magnitude of their effects on individual outcomes (Libai et al. 2010). Another less explored area that could be cleared by this research is to verify whether different service levels generate wider or lower word-of-mouth activity.

For all the above reasons the purpose of this article is to address these deficiencies by developing a literature overview related to three areas of correlations between service issue and WOM. Hence, the paper aims to propose a way to measure the WOM communication from the sender's perspective.

This will capture within the tourism industry case, the different consumers' willingness to widespread to other people their experience on the basis of hotel service level differences. Moreover, both the online and offline contexts will be considered in order to evaluate any differences in the WOM activity related to an hotel experience.

The main research questions arising from the paper are:

1. *Do different levels of hotel service experience have different impacts on customers' word-of-mouth behavior?*
  - 1.a If so, does a positive service experience generate a greater impact on word of mouth activity compared to a negative experience?
  - 1.b And if the service experience is not great but neither a negative one, but just a neutral experience? How does WOM activity react?
2. *Does the likelihood to report to other people an hotel experience vary if the message is addressed to an online context rather than to an offline environment?*

## 2. Main issues and literature review:

### *2.1 Service experience within the tourism industry*

The focus on service experience, particularly related to tourism products, has been linked to Pine and Gilmore's (1998) notions of the 'experience economy' or what other researchers have in part viewed more generally as a shift in consumption from Fordism to post-Fordism (Shaw & Williams 2004).

In fact, Pine and Gilmore (1998, 1999) have argued that post-modern forms of consumption relate to a changed economy based on experiences rather than just services and goods. Their perspective of experience embraced the previous thinking about the growing importance of consumer experiences as discussed by Holbrook and Hirschman (1982).

Services present many more customer's "touch points," or discrete sub-experiences, than do manufactured goods. By "sub-experience," we refer to a specific experience that is part of the customer's overall experience with an organization (Berry et al. 2006).

When customers buy services, they do not assume ownership or possession. They buy airline transportation, car rental, hotel, restaurant, and other services during a trip, but they bring little if anything tangible home with them as a result of these purchases.

A conception of services that is often described in the literature is the "service package" (or "bundle"), whereby different services and experiences are combined to form the overall service offering. Such a package typically consists of a main service (or core service), together with auxiliary (or peripheral) services as extras (Kandampully 2002; Gronroos 2001; Normann 2000).

Knowing how customers perceive a service represents a crucial aspect for firms, which translate customers' service perception and their related satisfaction, as a criterion for diagnosing product or service performance (Anderson & Sullivan 1993).

For example, Cronin and Taylor (1992), using a single-item purchase-intention scale, found a positive correlation with service quality and customer satisfaction. A study conducted by Woodside, Frey, and Daly (1989) uncovers a significant association between overall patient satisfaction and intent to choose the hospital again (Zeithaml et al 1996).

This implies a broader view of customer service, where the relationship between suppliers and consumers play a very important role in the value creation for both demand and supply side (Shaw et al, 2011). In fact, the ideas surrounding the Service Dominant Logic stands in marked contrast to more traditional approaches based on so-called goods dominant logic (Lusch & Vargo 2006). The former is particularly relevant to tourism management since "it is based on an understanding of the interwoven fabric of individuals and organizations" (Lusch, Vargo & O'Brien 2007).

Owing to the nature of tourism services, among which heterogeneity and inseparability are some of the characteristics (Bateson 1985), "customers tend to be much more involved in service production, or delivery, than their manufacturing counterparts" (Youngdahl & Kellogg 1997). This is also due to the demand for customized experiences as the interactions of consumers with providers change (Etgar 2008).

Another aspect that can highlight this change in consumers' needs, from the interaction to a customized experience, is explained by the development of social network sites made possible by



Web 2.0 technologies (Buhalis 2003; Buhalis, Laws 2008). According to Kirby (2006) it is increasingly recognized that on-line socialization amongst consumers significantly facilitates producer e customer engagement as well. Many of these consumers are looking both for conversations with each other, together with expectations of some interaction with and influence on producers. Within the context of tourism, Litvin et al. (2008) highlight the need to develop new ways to understand the influence of such e-conversations to tourism organizations too.

It is important to highlight, how perceived service does not always correspond to actual service. Service is “read” by the customer by way of cognitive and perceptual processes that are wholly subjective, where the outcome is perceived service (Baccarani et al 2010). This perceived service may also be very different from that actually provided because of perception filters (Quartapelle 1994), that increase or decrease the value of the service to the customer’s eyes.

The main perception filter categories, that can be applied to the hotel industry too, may vary from the image of the service provider (Bessom 1973; Eiglier, Langeard 1987) to the customer sense of control (Bateson, 1985; Bateson, Hui, 1990) and the perception of risk or uncertainty as well (Kaplan, Szybillo, Jacoby 1974; Murray, Schlacter 1990; Laroche, Bergeron, Goutaland 2003; Laroche et al. 2004).

Providing high-quality service and ensuring customer satisfaction are widely recognized as important factors leading to the success of the tourism industries (Stevens et al., 1995). Furthermore, customer satisfaction has generally been found to lead to positive behavioral intentions such as return, repurchase and purchase recommendation in many tourism and hospitality studies (Dube et al. 1994; Bojanic 1996).

Narayana et al (2009) developed a 10-factor structure to represent the dimension of service quality in tourism, focused in the Asian economy, that identifies core-tourism experience, information, hospitality, fairness of price, hygiene, amenities, value for money, logistics, food and security.

Tourism is a service-intensive industry that is dependent on the quality of customers’ service experiences and their consequent assessments of satisfaction or dissatisfaction (Zehrer 2009).

Nevertheless, tourism is not only an industry but also it can be defined as a system, where advantages come from the site “destination” feature, knowledge and experiences, enterprises organizational and technical skills and networks strengths (Della Corte 2000).

In order to promote tourism and market destination, it is important to study not only the sellers’ proposition of value but also the tourists’ attitude, behaviour and demand. Furthermore, many studies suggest that service quality positively impacts outcomes such as behavioral intentions, trust and loyalty (Aydin, Ozer 2005; Harrison-Walker 2001; Zeithaml et al. 1996). As a consequence, quality service performance and tourist satisfaction develop long-term relationship with tourists and in turn, bring about destination loyalty (Hui et al. 2007).

## *2.2 Word of mouth: customers’ tool to report their satisfaction/dissatisfaction*

A number of studies have shown that Word-of-Mouth (WOM) has an important influence on consumer purchases, and that this influence is particularly strong when a consumer is considering the purchase of a new product or service (Engel, Blackwell, and Kegerreis 1969; Katz and Lazarsfeld 1955). Moreover, consumer-created information is likely to be more credible than seller-created information because credibility of information is often positively related to the trustworthiness of the information source (Wilson and Sherrell 1993). One of the most important

aspect that leads firms to consider and analyze WOM, is that Word-of-mouth from satisfied customers lowers the cost of attracting new customers and enhances the firm's overall reputation, while the same from dissatisfied customers naturally has the opposite effect (Anderson, 1998; Fornell, 1992).

This attention for WOM has been increased by the proliferation of online feedback mechanisms that has already changed people's behavior in important ways: people increasingly rely on opinions posted on such systems to make a variety of decisions. Another study confirmed that online user reviews have become an important source of information to consumers, substituting and complementing other forms of business-to consumer and offline word-of-mouth communication about products. (Chevalier & Mayzlin, 2006).

Some fundamental changes in the marketplace have fostered this development. First, customers are connected in numerous ways that were not available in the past, including through social networking sites, blogs, wikis, recommendation sites, and online communities (Hennig-Thurau et al. 2010). This phenomenon has led to changes in the fundamental relationships of firms with their customers—as well as challenges to our definition and understanding of social networks. This new environment has caused marketers to reconsider how they define and understand C2C interactions and their importance to the firm.

Another debate in the literature is still about whether a positive WOM is more effective than a negative WOM or viceversa on consumer's decision making process. (Engel, Blackwell, Kegerreis 1969; Day 1971, Richins 1983, Bolting 1989, Tybout, Calder, Sternthal 1981, Goodman 1999, Buttle 1998, East, Hammond, Wright 2007, Anderson 1998, Rozin, Royzman 2001).

A recent study (Chen et al. 2011) found that negative WOM is more influential than positive WOM too. Much of the research to date has focused on the effect WOM has on the receiver of the communication (Arndt 1967, 1968; Brown and Reingen 1987; Engel, Blackwell, and Kegerreis 1969; Herr, Kardes, and Kim 1991; Zeithaml 1981), demonstrating the strong influence of WOM on product choice and selection, rather than on the sender of WOM communication (E. Anderson 1998; Feick, Price, and Higie 1986; Richins 1983) as a key player in the promotion of the firm (Jean Harrison-Walker 2001).

As a consequence there is not only a lack of a common view about the effect of a different valence of WOM on other consumers, but also a gap in understanding what leads customers to widespread WOM. This is related not only about a particular product or service but also about the valence of the overall purchasing experience, that leads consumers to tell their experience to other consumers.

A study has reported that positive WOM exceeds in quantity negative WOM in a 3:1 scale (East et al. 2007, 2008). The same results come from a previous research in the health care and car repair services (Mittal and Lassar 1998). Godes and Mayzlin (2004) found that positive film appraisals occurred nearly twice as often as negative appraisals. Cheema and Kaikati (2010) only analyzed the willingness to widespread positive WOM. Another study has found a greater willingness to generate WOM when consumers are unsatisfied about a product or service, finding that negative messages have a greater viral effect than positive messages (Rozin, Royzman 2001). Only one research has revealed that a neutral experience generates less WOM compared to a positive experience that follows a negative experience for the quantity of WOM widespread (Anderson 1998). From this literature overview, it is clear that other contributions are needed to enrich the existing body of knowledge.

### *2.3 Word of Mouth for tourism service experiences*

Services are natural candidates for WOM communication among consumers because they are generally difficult to evaluate prior to purchase (Zeithaml 1981) and therefore are perceived as high-risk (Guseman 1981; Murray 1991). For this reason, consumers often engage in WOM for high-risk products in general (Rogers 1983) and for services in particular to gain information that will reduce their risk, help them make comparisons between or among service alternatives, or help them understand the service prior to delivery and consumption (Bristor 1990). Many marketers - particularly those selling professional services—rely on these informal information channels (Reingen and Kernan 1986). Thus, WOM is particularly valuable for services, which are high in experience and credence qualities (Anderson 1998).

In these services, customers rely heavily on the advice and suggestions from others who have experienced the service (Kinard and Capella 2006). Furthermore, consumers often trust each other more than they trust communication from companies, thus highlighting the importance of WOM (Zeithaml and Bitner 1996).

The quality of the service that customers receive (Aydin and Ozer, 2005; Fullerton, 2005) as well as the quality of the relationship they have with a service provider or a firm (De Wulf et al., 2001;) are often seen as antecedents to positive customer outcomes.

In their conceptual service quality map, Baccarani et al (2010), summarized numerous variables as well as dimensions and sub-dimensions that influence customers in their service quality judgement. The important aspect to understand is that quality in services needs input both from top management and from operative staff, with a generalized ability to view the whole service provision system and implement company policies both in normal situations and where problems and unforeseen circumstances arise. In one section of the map, one tool that influences customers in their service evaluation is constituted by other customers' WOM. Given that WOM is also considered an important service outcome construct (Hennig-Thurau et al., 2002), it is crucial that firms understand the impact that relationship and service quality have in cultivating positive WOM behaviors among customers (Ng et al. 2011).

Some studies about the effectiveness of WOM have been applied to the tourism area, demonstrating the influence of both positive and negative WOM upon tourism products across a broad range of nations (Morgan, Pritchard, and Piggott's 2003; Crick's 2003; O'Neill, Palmer, and Charters 2002; Shanka, Ali-Knight, and Pope's 2002; Diaz-Martin, Iglesias, Vazquez, and Ruiz 2000; Litvin, Blose, and Laird 2004; Crotts and Erdmann 2000).

While the literature recognizes the importance of WOM, only few previous studies have considered the supply side perspective that is the impact of previous product or service experience to the activity of generating WOM. Parasuraman, Zeithaml and Berry (1988), Parasuraman, Berry, and Zeithaml (1991) and Zeithaml and Berry 1996, found a positive and significant relationship between customers' perceptions of service quality and their willingness to recommend the company was found.

Boulding et al. (1993), found a positive correlation between service quality and a 2-item measure of repurchase intentions and willingness to recommend. In a second study involving university students, they found strong links between service quality and behavioral intentions that are of strategic importance to the school, including saying positive things about the school, planning to

contribute money to the class pledge on graduation, and planning to recommend the school to employers as a place from which to recruit.

Customer WOM is arguably one of the most important outcomes of customer-firm relationship (Brown et al., 2005). Managers need to be aware of the ability that relationship benefits and service relationship quality may have to increase customer WOM propensity.

However, there is a lack of contribution about the supply side of WOM related to the tourism industry, which is the activity to report to other people the tourism experience, considering the antecedents that lead consumers to widespread Word of Mouth within this industry.

The research of consumer behaviour is the key to the underpinning of many marketing activities which are carried out to develop, promote and sell tourism products. Therefore, the study of consumer behaviour has become necessary for the sake of tourism marketing (Chen et al. 2011), and the overall Customer-to-Customer interaction, including the study of WOM.

### 3. Methodology

#### 3.1 Main hypotheses and sample

The main gaps emerged from the previous literature review lead the following hypothesis to test:

*Hp1. The valence of a hotel service experience influences the way a consumer report this experience to other people.*

Hp1.a If the hotel experience is positive, it is expected that the consumer will be more willing to tell it to other people;

Hp1.b If the hotel experience is negative, it is expected that the consumer will be less willing to tell it to other people compare to a positive one;

Hp1.c If the experience is mediocre, it is expected that the consumer will be less willing to report it to other people compare to a negative or a positive one;

*Hp2. The likelihood to report to other people a hotel experience might vary if the message will be addressed to an online context rather than to an offline one.*

To test these hypotheses, the paper has collected results from a broader online survey, which adopted WOM data across a range of different products. One of these was related to the tourism industry, specifically represented by an hotel service experience. The survey sample consisted of a total of 250 individual consumers and it took on average approximately 10 minutes to be completed. Data were collected accordingly from November 13<sup>rd</sup> to November, 20<sup>th</sup>, 2010 and they were related to an US sample<sup>1</sup>.

Participants were recruited from Amazon Mechanical Turk, an online platform, that matches the demand and supply for the recruitment of “*human intelligence*”, that is a sample of participant (called *workers*) that are willing to participate to some survey or experiment, receiving back a reward by other subjects (named requesters), that can be universities, enterprises that seek a certain amount of participants for their researches. Both *workers* and *requesters* are unknown and only the

---

<sup>1</sup> This is part of a broader research that I developed during my research period (August 2010- October 2010) at the University of Maryland, Robert Smith Business School, under the supervision of Prof. David Godes.

*workers* who present some specific request decided by requesters may fill in the questionnaire (e.g. certain age, gender, education)<sup>2</sup>.

The demographic profile for the sample was spread over gender, age, income and education groups as can be seen in Table 1.

*Table 1. Sample Description*

<b>Demographics</b>	<b>Percentage</b>
<b>Gender</b>	
Male	50,4
Female	49,6
	100
<b>Age</b>	
15-24	24,4
25-34	38,2
35-44	19,9
45-54	12,6
55-64	4,1
over 64	0,4
not answered	0,4
	100
<b>Education level</b>	
High school	22
University	55
Master	22
Phd	0
Other	1
Note: n 250 US sample	

From a recent study, which compared participants belonging to the Amazon Turk pool and other participants coming from other traditional offline pools<sup>3</sup>, it emerged that the former pool had more likely than the traditional one, the most similar features (geographic, demographic, education, etc level), of the American population (Paolacci et al. 2010).

Participants have been randomly assigned to the conditions of one of three hotel experience valence (awful/ok/great) design.

Each participant has been randomly shown one of the three scenario describing the hotel

<sup>2</sup> *Workers* could read a short description of what they were required to do before accepting to fill in the survey. Once the worker finished filling in the survey, the requester had to pay him/her in order to give back the answers. Reward are very low compared to those given in the traditional context (on average 1.40\$/h). However, it has been suggested to pay workers more to have more commitment in the survey compilation.

<sup>3</sup> Such as University pools, on-field pools etc.

accommodation and the related experience she/he was supposed to have had for that service (positive, negative or mediocre). After that, they were asked to provide the likelihood that they would have reported to other consumers their experience. They received a scale that range from 0 (not likely at all to refer this experience) to 100 (very likely to report this experience). Some of them have been randomly asked to tell a friend the experience in the offline environment, some others to report this experience in the online environment. As a consequence, this willingness to widespread WOM depends on different hotel experiences, which were randomly assigned to the participants, representing different experience valence (respectively a positive, negative and mediocre hotel experience).

The reliability and validity of self-reported measures of “post-purchase communications” have been empirically tested and the most common conclusion is that self-designated measures have adequate reliability and validity (Bellenger and Hirschman 1977; Brooker and Houston 1976).

### *3.2 Model Specification*

In order to test whether a person is likely to report an hotel service to other people, it was chosen as dependant variable the likelihood to tell a person about this experience (WOM prob<sub>ij</sub>), that has been randomly addressed respectively to an offline environment (i) and to an online context (j). The willingness to widespread this experience could vary from 0 to 100. We assumed this likelihood could be a dependent variable of multiple independent variables, such as the hotel experience valence, respectively positive (POS), neutral (MED) and negative (NEG). These variables are dummy variables so they could have a value of 0 or 1. In addition, some demographic variables have been included, from another dummy variable, gender (GENDER), and age (AGE) to education (EDU). In order to capture the individual effect, the “person.f” fixed effect has been included. The software adopted to elaborate and analyzed the linear regression was R, which provided the estimated results for our sample.

The model that arised is the following, from which a linear regression has been run in order to measure the existence of any significant relationship between each independent variable with the dependant variable:

$$\text{WOM prob}_{ij} = \beta_0 + \beta_1 \text{POS} + \beta_2 \text{NEG} + \beta_3 \text{MED} + \beta_4 \text{GENDER} + \beta_5 \text{AGE}_i + \beta_6 \text{EDU} + \beta_7 \text{person.f} + \varepsilon_t$$

To summarize, the dependent variable, that is the likelihood the participants will report to other people their experience related to a hotel, which depends by the valence of this hotel experience that varies from positive negative or neutral. In addition some demographic variables may affect the dependent variable, such as gender, age and education, plus a fixed effect for the individual level.

#### 4. Results

From the model some important results emerged. First of all, the results were divided into two parts the sample, one of them was randomly assigned the hotel experience that had to be reported to the offline context, while the other one had included participants, whom were asked to tell their experience in a online community posting a review. Table 2 presents the estimation of results for the part of the sample within the offline context. The coefficient for mediocre hotel experience is negative and statistically significant, suggesting that when the individual had experience a neutral hotel experience, the consequent willingness to tell this experience to a friend in the offline context is lower compared to WOM for a negative experience.

As we expected, the coefficient for positive experience is positive and significant, to state that when customers had a great hotel experience they are more likely to report their experience compared to negative or neutral experience. The coefficient for age is positive, for education and gender is negative but for all the three variables are not statistically significant for the model. Within the offline context it is confirmed that for positive experience consumers are more likely to report their experience to other people. For all the above reason, Word of Mouth is generated in a larger quantity for positive hotel experience compared to WOM related to negative or neutral experience.

*Table 2: Estimated results for hotel experience WOM addressed to the offline environment*

Coefficients:

	<b>Estimate</b>	<b>Std. Error</b>	<b>t value</b>	<b>Pr(&gt; t )</b>
(Intercept)	72.888	9.461	7.704	4.88e-12 ***
med	-13.157	5.054	-2.603	0.01044 *
pos	15.169	5.410	2.804	0.00592 **
age	1.950	1.759	1.109	0.26987
edu	-4.750	2.673	-1.777	0.07826 .
gender	-1.795	4.228	-0.424	0.67202

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 22.88 on 116 degrees of freedom

Multiple R-squared: 0.2599, Adjusted R-squared: 0.2216

F-statistic: 6.789 on 6 and 116 DF, p-value: 3.454e-06

On the other hand, Table 3 presents the estimation of results for participants who were asked to provide their likelihood to post an online review about their hotel experience. The coefficient for mediocre hotel experience is negative but not statistically significant, suggesting that when the individual had experience a neutral hotel experience, the consequent willingness to tell this experience to a friend in the offline context is lower compared to WOM for a negative experience.

Table 3: Estimated results for hotel experience WOM addressed to the online environment

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	8.7593	12.6091	0.695	0.4887
med	-7.2483	5.7791	-1.254	0.2123
pos	1.9969	6.7412	0.296	0.7676
age	-0.7156	2.4204	-0.296	0.7680
edu	8.4171	3.9016	2.157	0.0331 *
gender	-6.3491	5.1113	-1.242	0.2167

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 27.23 on 113 degrees of freedom

Multiple R-squared: 0.3031, Adjusted R-squared: 0.2661

F-statistic: 8.193 on 6 and 113 DF, p-value: 2.298e-07

All the coefficients that estimate the potential relationship between the hotel experience valence and the dependant variable are not statistically significant for the WOM addressed to the online environment.

The coefficients for age and gender are negative, while for education is positive and only for this one is statistically significant for the model. This means that for the online context, consumers who have a higher education level are more likely to post an online review about the hotel experience.

Within the online context it is not confirmed that for positive experience consumers are more likely to report their experience to other people. So Word of Mouth within the online environment needs to be more explored to understand the actual consumer behaviour.

For all the above reasons we can confirmed from the initial hypotheses that:

*Hp1. The valence of a hotel service experience influences the way a consumer report this experience to other people: validated but only for the offline context*

Hp1.a If the hotel experience is positive, it is expected that the consumer will be more willing to tell it to other people; *validated but only for the offline context*

Hp1.b If the hotel experience is negative, it is expected that the consumer will be less willing to tell it to other people compare to a positive one; *validated but only for the offline context*

Hp1.c If the experience is mediocre, it is expected that the consumer will be less willing to report it to other people compare to a negative or a positive one; *validated but only for the offline context.*

*Hp2. The likelihood to report to other people a hotel experience might vary if the message will be addressed to an online context rather than to an offline one: we obtained different estimated coefficient for online context compared to those of the offline environment. However, only the estimated coefficients for offline context were significant while those for online context were not.*



## 5. Implication, Conclusion and Further research

The findings of this study contribute to the literature by showing the different impact that service experience valences have on consumers' willingness to report WOM within the tourism industry. This implies a contribution for both academics and practitioners to better understand the impact of positive versus negative service experience on consumers' willingness to widespread WOM.

The current research empirically validates the existence of a significant relationship between consumers' service experience perception as potential antecedents and the related word-of-mouth communication. The findings support the hypothesis that positive service experience is positively related to a more likely word-of-mouth communication activity by consumers than a negative service experience. This is statistically significant only for participants who were asked to tell their experience to other people in the offline context, while is not significant for those experience that were addressed to be posted to the online environment.

Some limitations emerged from this study: first of all, it is related to an American sample that needs to be compared to another geographic area sample, such as a European sample. Moreover, it has been focused on an online survey, which requires simulating to have had a hotel experience. This might be enriched by a real hotel post purchased scenarios where real customers report whether they told their experience to other people.

Further research is needed to improve this knowledge about consumer behavior in term of WOM addressed to both online and offline environment, as a consequence of service performance, particularly within this industry. This is important for companies, which are interested in managing and controlling the output of their service performance; moreover, within the tourism industry, understanding the consequence tourist satisfaction/dissatisfaction, could be not only the antecedent of WOM activity, but an important tool to attract new customers, to develop long-term relationship with tourists and in turn, bring about destination loyalty.

## References

- Anderson E. W., Sullivan M.V., (1993), The Antecedents and Consequences of Customer Satisfaction, *Marketing Science*, 12: 125-143.
- Anderson E. W., (1998), Customer Satisfaction and Word of Mouth, *Journal of Service Research*, Vol.1, N.1: 5-17.
- Arndt J., (1967), The role of product-related conversations in the diffusion of a new product, *Journal of Marketing Research*, Vol. 4, N. 3: 291–295.
- Arndt, J.A. (1968), Selective Processes in Word-of-Mouth, *Journal of Advertising Research*, 8:19-22
- Aydin S., Ozer G., (2005), The analysis of antecedents of customer loyalty in Turkish mobile telecommunication market, *European Journal of Marketing*, 7-8: 910–925.
- Baccarani C., Ugolini M., Bonfanti A. (2010), A conceptual service quality map: the value of a wide opened perspective, *Proceedings 13<sup>th</sup> Toulon-Verona Conference Excellence in Services*, Coimbra - Portugal, 2-4 September 2010.
- Bateson J. (1985). Perceived control and the service encounter. In: Wu C.H., (2007), The impact of customer-to-customer interaction and customer homogeneity on customer satisfaction in tourism service—The service encounter prospective, *Tourism Management*, 1518–1528.
- Bateson J.E.G., Hui M.K., (1991) Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience, *Journal of Consumer Research*, Vol.18: 174-84.

- Bellenger D.N., Hirschman E.C. (1977), Identifying Opinion Leaders by Self-Report, *Contemporary Marketing Thought*, Vol. 41: 341-344
- Berry L.L., Wall E.A., Carbone L.P., (2006), Service Clues and Customer Assessment of the Service Experience: Lessons from Marketing, *Academy of Management Perspectives*
- Bessom R.M. (1973), *Unique Aspects of Marketing Services*, Arizona Business Bulletin.
- Bojanic D.C, Rosen, L.D (1994), Measuring service quality in restaurants: an application of the SERVQUAL instrument, *Hospitality Research Journal*, Vol.18 No.1:3-14.
- Bolting C.P., (1989), How do customers express dissatisfaction and what can service marketers do about it?, *Journal of Services Marketing*, Vol.3, N.2:5–23.
- Boulding W., Kalra A., Staelin R., Zeithaml V.A., (1993), A dynamic process model of service quality: from expectations to behavioral intentions, *Journal of Marketing Research*, Vol. 30, N.1:7-27.
- Bristor, Julia M. (1990), Enhanced Explanations of Word of Mouth Communications: The Power of Relationships, *Research in Consumer Behavior*: 51-83.
- Brooker G., Houston M.J., (1976), An Evaluation of Measures of Opinion Leadership, *Marketing*: Vol. 39: 564-567
- Brown J.J., Reingen, P.H., (1987), Social Ties and Word of Mouth referral behaviour, *Journal of consumer research*, Vol.14: 350-362.
- Brown T.J., Barry T.E., Dacin P.A., Gunst R.F., (2005), Spreading the Word: Investigating Antecedents of Consumers' Positive Word-of-Mouth Intentions and Behaviors in a Retailing Context, *Journal of the Academy of Marketing Science*, Vol. 33, 2: 123-138.
- Buhalis D., Deimezi, R., (2003), eTourism Developments in Greece: Implications for the Industry Structure, in: Frew A., O'Connor P., Hitz M., (eds) Information and Communications technologies in Tourism, *Proceedings, Springer-Verlag, Wien*: 39-48.
- Buttle F., (1998), Word of mouth: understanding and managing referral marketing. *Journal of Strategic Marketing*, Vol.6, N.3: 241–254.
- Cheema A., Kaikati A. M, (2010), The Effect of Need for Uniqueness on Word of Mouth, *Journal of Marketing Research*, 47, 3: 553-563.
- Chen C.M., Chen S.H., Lee H.T.,(2009), The Influence of Service Performance and Destination Resources on Consumer Behaviour: A Case Study of Mainland Chinese Tourists to Kinmen, *International Journal of Tourism Research*, 11: 269–282.
- Chevalier J. A., Mayzlin D., (2006), The Effect of Word of Mouth on Sales: Online Book Reviews, *Journal of Marketing Research*, 43:345–54.
- Crick A. P. (2003). Internal marketing of attitudes in Caribbean tourism. *International Journal of Contemporary Hospitality Management*, 15, 3: 161–166.
- Cronin J.J., Taylor S.A., (1992), Measuring Service Quality: A Reexamination and Extension, *Journal of Marketing*, 56: 55-68.
- Crotts J. C., Erdmann R. (2000), Does national culture influence consumers' evaluation of travel services? A test of Hofstede's model of cross-cultural differences. *Managing Service Quality*, 10,6: 410–419.
- Day G.S., (1971), Attitude change, media and word of mouth. *Journal of Advertising Research*, December, Vol. 11, N.6: 31–40.
- Della Corte V., (2000), *La gestione dei Sistemi Locali di Offerta Turistica*, CEDAM.
- DeWulf F., Odekerken-Schroeder G., (2003), Assessing the impact of a retailer's relationship efforts on consumers' attitudes and behavior. *Journal of Retailing and Consumer Services*, 10: 95–108.
- Diaz-Martin A. M., Iglesias V., Vazquez R., Ruiz A. V. (2000), The use of quality expectations to segment a service market. *Journal of Services Marketing*, 14, 2: 132–146.
- Dube L., Renaghan L.M., Miller J.M (1994), Restaurant management: measuring satisfaction for strategic management, *Cornell Hotel and Restaurant Administration Quarterly*, Vol.35 No.1: 39-47

- East R., Hammond K. A., Wright M., (2007), The Relative Incidence of Positive and Negative WOM: A Multi-Category Study, *International Journal of Research in Marketing*, Vol.24, N.2: 175-84.
- East R., Hammond K. A., Lomax W., Measuring the impact of positive and negative word of mouth on brand purchase probability, *International Journal of Research in Marketing*, Vol. 25, N.3, 2008: 215-224.
- Eiglier P., Langeard E. (1987), *Servuction. Le Marketing des Services*, McGraw-Hill, Paris, in: Baccarani C., Ugolini M., Bonfanti A. (2010), A conceptual service quality map: the value of a wide opened perspective, *Proceedings 13<sup>th</sup> Toulon-Verona Conference Excellence in Services*, Coimbra - Portugal, 2-4 September 2010.
- Engel J. E., Blackwell R.D., Kegerreis R. J., (1969), How Information is Used to Adopt an Innovation, *Journal of Advertising Research*, 9: 3-8.
- Etgar M. (2008). A descriptive model of the consumer co-production process. *Journal of the Academy of Marketing Science*, 36: 97-108.
- Feick L. F., Price L.L., (1987), The Market Maven: A Diffuser of Marketplace Information, *Journal of Marketing*, 51: 83–97.
- Fornell C. (1992). A national customer satisfaction barometer: The Swedish experience. *Journal of Fullerton G.*, (2005), The service quality–loyalty relationship in retail services: does commitment matter?, *Journal of Retailing and Consumer services*, vol.12, 2:99-111.
- Glynn Mangold W., Miller M., Brockway G.R., (1999), Word-of-mouth communication in the service marketplace, *Journal of Services Marketing*, Vol. 13: 1: 73 – 89.
- Godes D., Mayzlin D., Chen Y., Das S., Dellarocas C., Pfeiffer, B., Libai B., Sen S., Shi, M., Verlegh P. (2005) The Firm’s Management of Social Interactions, *Marketing Letters*, 16, 3: 415-428.
- Godes D., Mayzlin, D., (2004), Using Online Conversations to Study Word-of-Mouth Communication, *Marketing Science*, Vol. 23, No.4.: 545.
- Goodman, J. (1999), Basic Facts on Customer Complaint Behavior and the Impact of Service on the Bottom Line, *Competitive Advantage*:.2.
- Goyette I., Ricard L., Bergeron J. Marticotte F., (2010), e-WOM Scale: word-of-mouth measurement scale for e-services context. *Canadian Journal of Administrative Sciences / Revue Canadienne des Sciences de l'Administration*, 27: 5–23.
- Gremler D.D., Gwinner K.P., Brown S.W.(2001), Generating positive word-of-mouth through customer-employee relationships, *International Journal of Service Industry Management*, Vol.12, N.1: 44-69.
- Gronroos C. (2001), A service quality model and its marketing implications, *European Journal of Marketing*, Vol. 18 No. 4:36-44.
- Guseman, D.S. (1981), Risk perception and risk reduction in consumer services, *Marketing of Services*: 200-4.
- Harris K., Baron S., (2004), Consumer-to-Consumer Conversations in Service Settings, *Journal of Service Research*, February, Vol. 6, N. 3: 287-303.
- Harrison-Walker L.J., (2001), The Measurement of Word-of-Mouth Communication and an Investigation of Service Quality and Customer Commitment As Potential Antecedents, *Journal of Service Research*, Vol. 4, 1: 60-75.
- Herr P. M., Kardes F.R., Kim, J., (1991), Effects of word-of-mouth and product-attribute information on persuasion: An accessibility-diagnostics perspective. *Journal of Consumer Research*, 17:454-462.
- Holbrook M. B., Hirschman E. C. (1982). The experiential aspects of consumption: consumer fantasies, feelings and fun, *Journal of Consumer Research*, 9, 2: 132-140.
- Hui, M.K. Dube L. Chebat J., (1997), The impact of music on consumers’ reactions to waiting for services, *Journal of Retailing*, 73: 87–104.

- Hutchinson J., Youcheng R.W., Lai F., (2010), The impact of satisfaction judgment on behavioral intentions: an investigation of golf travelers, *Journal of Vacation Marketing*, January; Vol. 16, 1: 45-59.
- Kandampully J. (2002), *Services Management – The New Paradigm in Hospitality*, Pearson Education, Brisbane. in : Zehrer A., (2009), Service experience and service design: concepts and application in tourism SMEs, *Managing Service Quality*, Vol. 19, N. 3: 332-349.
- Kaplan L. B., Szybillo G., Jacoby J., (1974), Components of Perceived Risk in Product Purchase: A Cross Validation, *Journal of Applied Psychology*, 59, 3: 287-291.
- Katz E., Lazarsfeld P.F., (1955), *Personal Influence: The Part Played by People in the Flow of Mass Communication*, New York: The Free Press.
- Kinard B.R., Capella M.L. (2006), Relationship marketing: the influence of consumer involvement on perceived service benefits, *Journal of Services Marketing*, Vol.20 No.6 :359-68.
- Kirby, J. and Paul Marsden (2006), *The Viral, Buzz and Word of Mouth Revolution*. Burlington, MA: Butterworth-Heinemann.
- Laroche M., Bergeron J., Goutaland C. (2003), How intangibility affects perceived risk: the moderating role of knowledge and involvement, *Journal of Services Marketing*, Vol.17, N.2: 122-40.
- Laroche M., McDougal G.H.G., Bergeron J., Yang Z. (2004), Exploring how Intangibility affects perceived risk, *Journal of Service Research*, Vol.6 No.4: 373-89.
- Law Q.S. R. Buhalis D., (2008), Usability of Chinese Destination Management Organization Websites, *Journal of Travel & Tourism Marketing*, Vol.25, 2:182-198.
- Libai B., Bolton R., Bu M.S., de Ruyter K., Go O., Risselada H., Stephen A.T., (2010), Customer-to-Customer Interactions: Broadening the Scope of Word of Mouth Research, *Journal of Service Research*, 13, Vol.3: 267-282
- Litvin S. W., Blose J. E., Laird, S. T. (2004), Tourist use of restaurant web-pages: Is the internet a critical marketing tool? *Journal of Vacation Marketing*, 11, 2: 155–161.
- Litvin S.W., Goldsmith R.E., Pan B., (2008), Electronic word-of-mouth in hospitality and tourism management, *Tourism management*, 29: 458-468.
- Lusch R. F., Vargo S. L. (2006), Service-dominant logic as a foundation for building a general theory. In: Lusch, R. F., Vargo S. L. (Eds.), *The service-dominant logic of Marketing: Dialog, debate and Directions*, New York: Armonk.
- Lusch R. F., Vargo S. L., & O'Brien, M. (2007). Competing through service: insights from service-dominant logic. *Journal of Retailing*, 83, 1: 5-18.
- Mangold, G.W., Miller, F., Brockway, G.R., (1999). Word-of-mouth communication in the service marketplace. *The Journal of Services Marketing* 13, 1:73-89.
- Mittal, B., Lassar, W.M. (1996), The role of personalization in service encounters, *Journal of Retailing*, Vol.72: 95-109.
- Morgan N. J., Pritchard A., Piggott, R. (2003), Destination branding and the role of the stakeholders: The case of New Zealand. *Journal of Vacation Marketing*, 9, 3: 285–299.
- Murray K.B., Schlacter J.L. (1990), The Impact of Services versus Goods on Consumers' assessment of perceived risk and variability. *Journal of the Academy of Marketing Science*, 18, 1: 51–66.
- Murray, K.B. (1991), A test of services marketing theory: consumer information acquisition activities, *Journal of Marketing*, Vol.55:10-25.
- Narayana B., Chandrasekharan Rajendrana C., Sai L.P, Gopalanb R., (2009), Dimensions of service quality in tourism—an Indian perspective, *Total Quality Management*, Vol. 20, No. 1, January 2009: 61–89.
- Ng S., David M.D., Dagger T.S., (2011), Generating positive word-of-mouth in the service experience, *Managing Service Quality*, Vol. 21, 2: 133 – 151.

- Normann R. (2000), *Service Management*, John Wiley & Sons, Chichester, in: Zehrer A., (2009), *Service experience and service design: concepts and application in tourism SMEs*, *Managing Service Quality*, Vol. 19 No. 3: 332-349.
- O'Neill M., Palmer A., Charters S. (2002), Wine production as a service experience—The effects of service quality on wine sales. *The Journal of Services Marketing*, 16, 4: 342–362.
- Paolacci G., Chandler J., Iperiotis P.G., Running experiments on Amazon Mechanical Turk, *Judgment and Decision Making*, Vol.5, N.5, August 2010: 411-419.
- Pine J. B. Joseph, Gilmore J. H., (1999), *The Experience Economy*, Boston: Harvard Business School Press.
- Pine J. B., Gilmore J. H. (1998). Welcome to the experience economy, *Harvard Business Review*, 76, 4: 1-9.
- Quartapelle A., (1994), *Customer satisfaction*, McGraw Hill Libri, Milano.
- Reingen, P. H., Kernan J. B. (1986), Analysis of Referral Networks in Marketing: Methods and Illustration, *Journal of Marketing Research*, 23: 370-378.
- Richins M.L., (1983), Negative word-of-mouth by dissatisfied customers: a pilot study. *Journal of Marketing*, Vol.47, No.1: 68–78.
- Rogers E.(1983), *Diffusion of Innovations*, 3rd ed. New York: Free Press, in : Harrison-Walker L.J., (2001), The Measurement of Word-of-Mouth Communication and an Investigation of Service Quality and Customer Commitment As Potential Antecedents, *Journal of Service Research*, Vol. 4, 1: 60-75.
- Rozin P, Royzman E.B., (2001), Negativity Bias, Negativity Dominance, and Contagion, *Personality and Social Psychology Review*, Vol.5, N.4:296-320.
- Shanka T., Ali-Knight J., Pope J. (2002), Intrastate travel experiences of international students and their perceptions of Western Australia as a tourist destination. *Tourism and Hospitality Research*, 3, 3: 245–256.
- Shaw G., Williams A. M. (2004). *Tourism and tourism spaces*. London: Sage in: Shaw G., Bailey A., Williams A.M. (2011), Aspects of service-dominant logic and its implications for tourism management: Examples from the hotel industry, *Tourism Management*, 32: 207-214.
- Shaw G., Bailey A., Williams A.M. (2011), Aspects of service-dominant logic and its implications for tourism management: examples from the hotel industry, *Tourism Management*, 32: 207-214.
- Tybout A.M., Calder B.J., Sternthal B., (1981), Using information processing theory to design marketing strategies. *Journal of Marketing Research*, Vol.18, N.1:73–79.
- Wilson E. J., Sherrell D. L., (1993), Sources effects in communication and persuasion research: A meta-analysis of effect size. *Journal of Academy of Marketing Science*, 21:101–112.
- Woodside, A.G., Frey, L. L., Daly R.T., (1989), Linking Service quality, Customer Satisfaction, and Behavioral Intentions. *Journal of Health Care Marketing*, 9, 4:5-17.
- Youngdahl W. E., Kellogg, D. L. (1997), The relationship between service customers' quality assurance behaviors, satisfaction and effort: A cost of quality perspective. *Journal of Operations Management*, 15: 19–32.
- Zehrer A., (2009), *Service experience and service design: concepts and application in tourism SMEs*, *Managing Service Quality*, Vol. 19 No. 3: 332-349.
- Zeithaml V. A., Bitner M.J. (1996), *Services Marketing*, McGraw-Hill, New York, NY.
- Zeithaml V.A., Berry L.L., Parasuraman A., (1996) The Behavioral Consequences of Service Quality, *Journal of Marketing*, Vol. 60: 31-46.
- Zeithaml, V. A. (1981). How consumer evaluation processes differ between goods and service. In J. H. Donnelly, & W. R. George (Eds.), *Marketing of services* (pp. 186–190). Chicago: American Marketing Association.

# THE FIRST IMPLEMENTATION IN ITALY OF 112 AS UNIQUE EMERGENCY DIAL NUMBER (UEN). THE VARESE PROJECT MANAGED BY AREU.

Authors: **Cristina Corbetta**, Public Relations Officer - Areu - Milano- Italy, c.corbetta@areu.lombardia.it; **Gabriele Dassi** – Project manager NEU Varese Project – Areu – Milano [g.dassi@areu.lombardia.it](mailto:g.dassi@areu.lombardia.it); **Andrea Francesconi**, Associate Professor of Public Management - University of Trento – Trento- Italy, andrea.francesconi@unitn.it; **Alberto Zoli** , Chief Executive Officer – Areu – Milano – Italy, a.zoli@areu.lombardia.it.

## EXECUTIVE SUMMARY

All European countries have implemented the unique emergency dial number (112) in order to guarantee, in the case people call this number from a mobile phone, that the information about their location is immediately available to the appropriate emergency services. Italy was, until last year, an exception and was sued by the European Commission on may 2010 for not fulfill the implementation of the unique number.

In this context AREU – Lombardy Regional Entity for Emergency Services - has been identified as the entity responsible for the implementation of the pilot project started on June 2010. The goals pursued by the project were:

- a) to implement in the Province of Varese the 112 as the unique emergency number;
- b) to evaluate the increase in the quality of emergency services provided by different public and not for profit organizations (healthcare organizations, public hospitals; local police; public security, red cross and many others);
- c) to evaluate how to extend the experimentation all over Italy.

The paper aims to illustrate the impressive results achieved by the pilot project. Results that has been possible thanks to the effective cooperation of different public administrations as the National Department for Public Security within the Italian Ministry for Domestic Affairs, the Police, the Fire Department and, obviously, all Healthcare Organizations involved in managing emergency services.

The paper, after a short description of the European and the Italian situation related to the 112 unique dial number for emergency, highlights the specific features of the pilot project (with particular emphasis on the organizational and technical settings) and the results achieved in terms of outputs, quality, investments and resources (cost). The paper provides evidence of the many and significant improvements in the quality of the first aid emergency services obtained thanks to the new operational techniques implemented for managing emergency calls.

Final considerations are related to the concrete critical issues to be considered for extending the project all over the nation and on the future agenda.

## INTRODUCTION

Goal of the paper is to describe and evaluate a very important experimental project called, Unique Emergency dial Number (UEN). The project involved the Italian Department for Public Safety within the Ministry for Internal Affairs, the Carabinieri, the Firemen Department and the Emergency Department (this last one better known in Italy as 118 Service) and was aimed to

gradually implement the “112 UEN” in order to accomplish the obligation to realize the first level Public Safety Answering Point (PSAP) as well as already done by many European Countries.

AREU (Azienda Regionale Emergenza Urgenza) Lombardy Regional Entity for Emergency Services, has been selected as project leader due to its institutional features, its competences and its skills.

The Department for Civil Protection and Security of Lombardy Region was the Entity responsible for financing the project. The project started on June 21<sup>st</sup> 2010.

## **WHO IS AREU**

AREU was established with Regional Law (RL) 12.12.2007, n. 32 (repealed by RL 30.12.2009, n. 33 "Consolidated regional laws on health") and it has been activated on April 2, 2008. Its mission is to ensure, in the Lombardy Region the:

- a) Emergency medical aid
- b) emergency medical transportation of organs, tissues, medical teams and patients in transplant candidates
- c) transfusion activities, exchange and clearing of blood and blood components

AREU achieves its mission goal through managing and coordinating the followings:

- a) a central coordinating structure (AREU Management);
- b) 12 TJC (Territorial Joint Company) distributed throughout the region, normally on a provincial basis, including the 118 structure (Emergency Operations Centre) normally located in a hospital system and the locations of emergency vehicles in the area.
- c) one of 12 118 structures (located in Milan) is specifically responsible for managing the activities of organs, tissues, medical teams and patients candidates for transplantation
- d) 15 Departments of Hematology and Transfusion Medicine (one for each province, plus 4 for the province of Milan).

## **THE EUROPEAN CONTEXT**

The introduction in all EU Member States of the 112 as the “Unique European Emergency Number” was foreseen since 1991 by Decision Number 91/396/CEE of the Council of European Community. With the publication of the New Regulatory Framework in 2002, the European Commission has reiterated this requirement (Universal Service Directive, 2002/22/EC).

The entire regulatory package was transposed by Italy in August 2003 with the Legislative Decree No 259/2003, the Electronic Communications Code. The Decree is subject to regular review and updating as well as the EC Universal Service Directive. The EC Directive has been amended by Directive No 2009/136 that introduce more stringent obligations than former ones.

The last amendment to the Directive must be adopted by EU Member States within May 2011, and since then all the changes done to the regulatory framework will be binding.

The 112 as the Unique European Emergency Number should assure the users:

1. a unique number (112) for an appropriate answer to a specific emergency need. That means an integrated and coordinated response between the different entities involved in emergency management and intervention (health, rescue, security, fire preventions and so on). The number may be dialed by any Italian citizen or foreigner citizen from a phone or a mobile phone;
2. an easily and quickly location and identification of the caller both from fixed and mobile phone;
3. the ability to answer, interact and converse in different languages;
4. an easy access for disabled people.

## **THE ITALIAN CONTEXT**

In Italy the implementation of UEN has been carried by the central government by creating a technical panel. This technical panel - convened and coordinated by the Minister in September 2009 - established two different pathways for implementing UEN:

1. The first one is based on the building of the basic infrastructure all over the country - the so called "integrated NUE 2009 project- ;
2. The second one is based on a direct participation of all Italian Regions that are expected to test the 112 UEN model.

Anyway the need of defining from scratch a 112UEN model congruent with EU institutions requirements suggested to Italian Authorities to start with an experimental project - a trial of the 112 UEN in Italy. The trial was conducted in a geographical area – the Varese area in Lombardy. The Varese area was selected because it has been considered highly representative for its orographical, geographical and demographical features ( ~ 1,000,000 inhabitants) as well as for the the organization of emergency services.

The pilot project – called Varese 112 UEN – start up occurred with the subscription on March 4<sup>th</sup> 2010 of a technical and operational protocol illustrating all the different procedures for managing Public Safety Answering Points (PSAP) and establishing – according to European law - how to realize a concrete contact between citizens and all the different entities involved in the emergency system.

The high level of performance obtained with the pilot project lead the National Government (the Ministry for Internal Affairs) to considered it as a model to be widespread all over the country as the best model for managing PSAP.

On this basis, on March 28<sup>th</sup> 2011 was signed the protocol for the extension of the project to the entire Lombardy Region (nearly ten million people).

## **THE VARESE PROJECT**

The Varese call center is a so defined "Lay Call Center ", because no operators coming from the police department or from others public security agencies are directly involved in its functioning. This model of call center has the same characteristics as those established at European level involving workers that do not belong to any public emergency agency and are specially trained to



perform the task of receiving / filtering and sorting emergency calls. At the European level this kind of call centers are defined First Level Public Safety Answering Point (PSAP 1). Second level SAP (PSAP 2) are therefore current Operation Centers (112, 113, 115, 118, Local Police and Civil Defence for the experience of Lombardy Region).

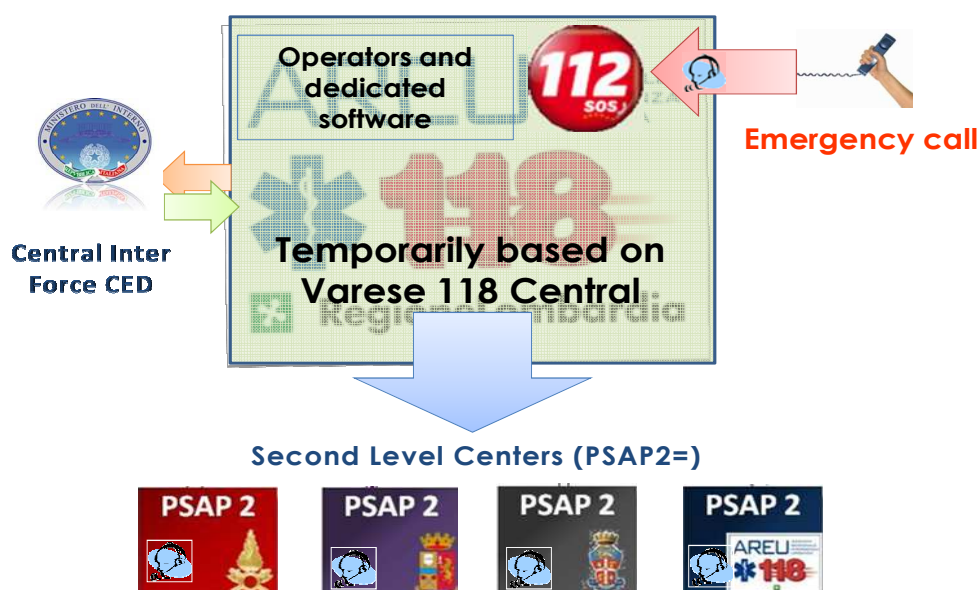
In this way in Italy - as well as in many European countries - is then activated NUE 112, but the existing emergency numbers (113, 115 and 118 ), that citizens are accustomed to dialing in case of distress, still remain in use. This experience has contributed significantly to the storage of condemnation and EU sanctions on Italy for non-compliance with European directives.

### Project characteristics

Economical and organizational reasons made it necessary to activate the first Call Talking Operations within the existing building of the Varese Local Emergency Operations Centre Emergency Varese 118 for all emergency numbers (113, 112, 115 and 118), while the operational response (dispatch) continued to be guaranteed by the central Police, and other Public Security Agencies.

The separation between those who received the call (Varese NEU Call Center) and those then actually takes load of the case according to the different need of the caller ( Carabinieri, Police, Fire and Medical Emergency Unit) is not evident to the caller. But in any case the call is managed in a way to guarantee all the necessary actions for a successful rescue.

The following figure highlights what has been described.



The project idea is very simple and is based on the availability of a Virtual Private Network (VPN) that ensures information exchange (both in voice and data) between PSAP 1 and PSAPs 2 including the caller location and identification starting from data directly obtained from the connection between Varese PSAP 1 and the Central Multi Force Agency in Rome, taking place, during the call, on the same VPN in a few seconds.

### **How the call is managed**

- ◇ By dialing every emergency number (112,113, 115,118) citizens immediately get in touch with Varese PSAP 1 Call Center operator.
- ◇ The operator begins filling in the contact form (activating if it is necessary a multilingual conference call) ;
- ◇ The simultaneous link with the Central Multi Force Agency in Rome allows to collect, in 4/5 seconds, the identification data of the caller and to locate it. These data are also filled in the contact form.
- ◇ At the same time the operator carry out a first classification of the call. This classification is useful for identify the type of emergency unit that has to be activated. For this purpose the operators use a specific software application allowing them to immediately route the call and direct it to the relevant emergency unit to be appointed to act. This software has been specifically created and defined "NUE 112"
- ◇ If the relevant force to be activated is the police, the software automatically proposes the PSAP2 jurisdiction that is identified on the basis of its proximity to the event and according to the Coordinated Control of Territory Plan provided by the government and configured in the software.

The entire process is completed as quickly as possible (normally the whole process is on average completed within 50 seconds) and all the telephone traffic is registered.<sup>1</sup>

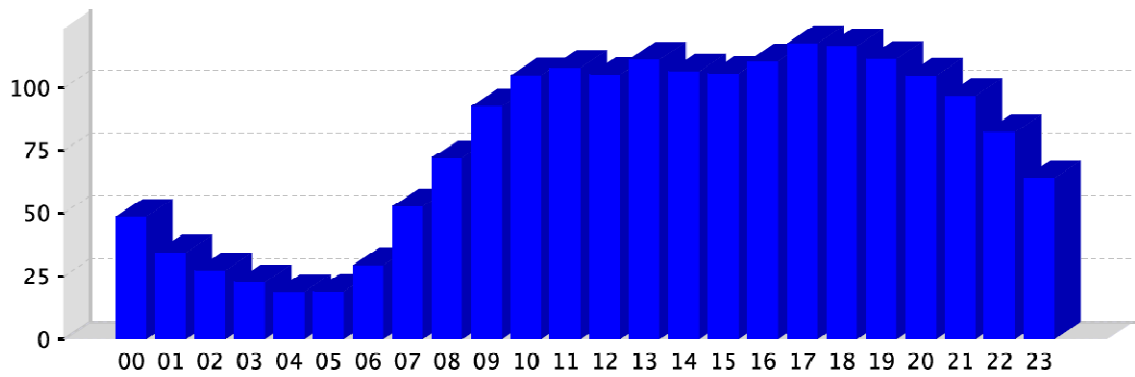
### **Defining the size of the service and getting people started (number of operators and their training)**

Some specific indicators have been identified in order to define the number of operator needed according to the expected workload and to design a specific training program. The most relevant indicators used have been the following ones:

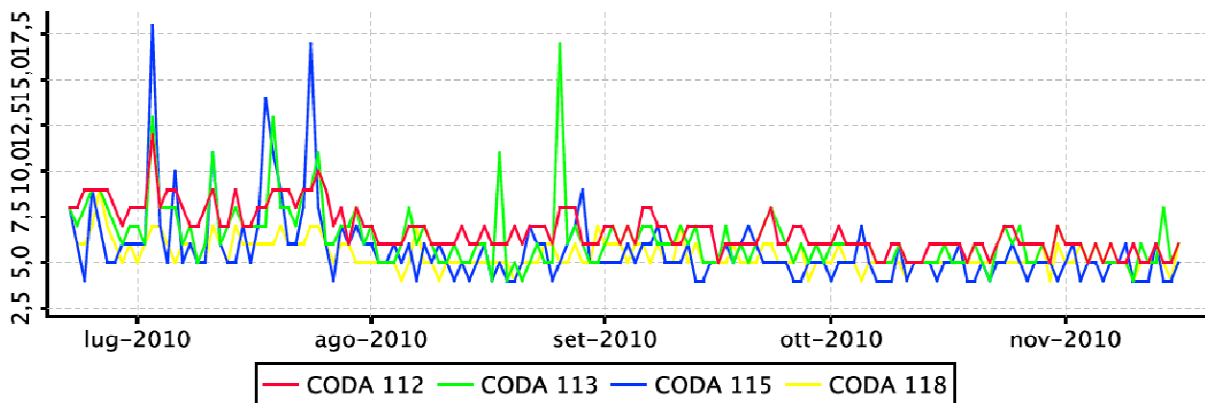
- a) Total number of incoming calls: 1.900 expected calls per day
- b) The distribution of calls during the day (circadian analysis). The following graph shows the intra - day distribution of emergency calls.

---

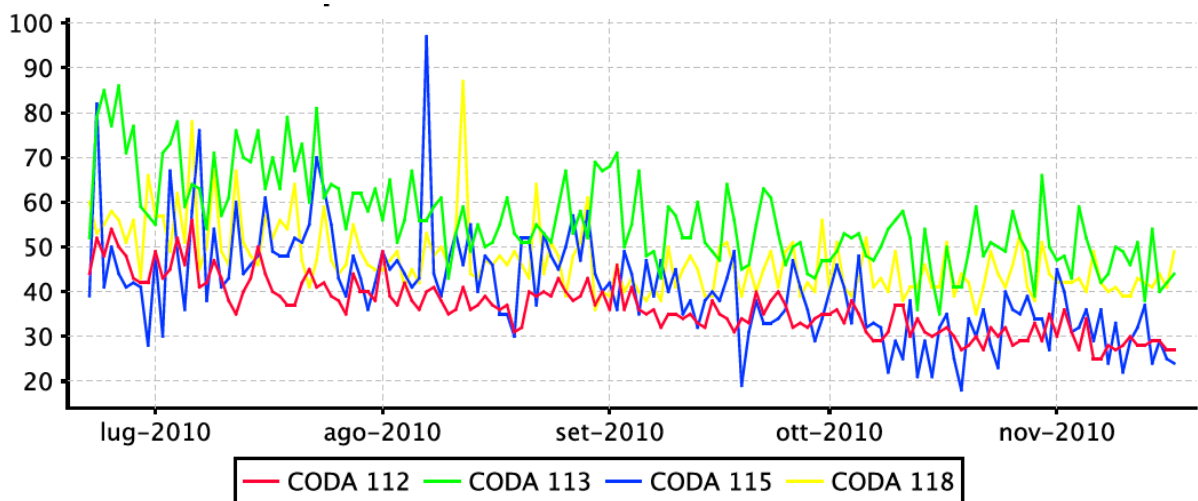
<sup>1</sup> Even the mute can make use of the service through sending or receiving sms



c) The maximum affordable waiting time for an emergency call (defined in a maximum of 10 seconds or 3 rings). The following graph shows the actual level of performance.



d) The average time for managing an emergency call (around 50 seconds actually). Once again the following graph shows the actual level of performance achieved.



On this basis the service has been staffed with 16 operators. This is enough to effectively cover and manage a 24 hour service (law established rest periods included).

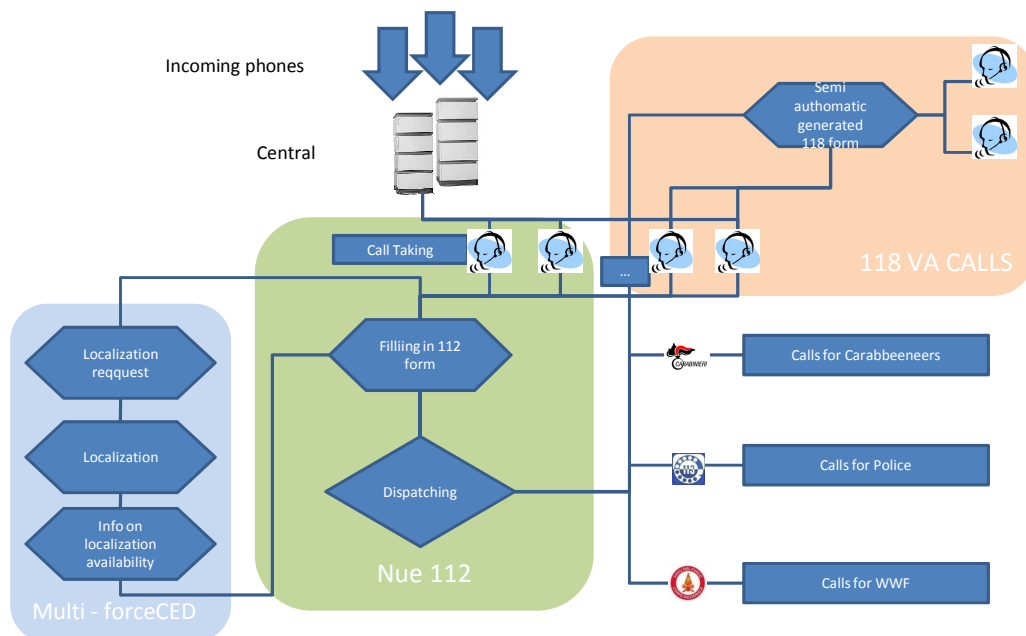
The operators have been selected between already skilled and experienced people already operating for public or not for profit emergency rescue agencies. Two important factors were the base for this choice:

- a) To exploit existing skills to ensure immediate and full operation to the service;
- b) To guarantee an adequate level of representativeness to all the existing and operating organizations into the newly implemented system.

An appropriate training program focused on technical, organizational and process elements has been necessary in order to let people effectively manage the new instruments and procedures.

The one month training program included also a specific part on the management of relevant personal information. This part was directly taught by local police authority.

Another important factor to be pointed out is about the organizational model. The model has been defined so that PSAP1 operators, in case of uncertainty, in case of need or in case of excessive workload, may count on the help from 118 operators working in the same location. This has happened very seldom but, when needed, it has been useful for effectively show the high synergies obtainable from a location projected in this way. The following figure highlights this concept.



## Technological adjustments.

Some technological adjustments has been needed in order to made the existing structure coherent with the organizational impact related to the need of installing 4 new operating workstations on top of the already existing 8 operating workstations. Every operator has nowadays the availability of a 2 monitor dedicate working station able to visualize the general data of the caller (i.e. dialing number, address etc.) and a map of the area from which the call is coming as well as an integrated phone. Four big monitors (as show in the following photo) have been installed on the center of the room in order to highlight the overall situation related to ongoing (incoming and out-coming) calls.



## RESULTS ACHIEVED

The main results achieved by the Varese Project are the following ones:

- A strong reduction on the number of inappropriate emergency calls (~ 50 %) thanks to the action made by Varese PSAP 1 that permit to PSAP 2 to be selectively contacted only by relevant calls: This has lead to an huge reduction in the number of inappropriate interventions and to a relevant saving of time for policeman and other security forces.
- Stability in the distribution of calls to different forces dedicated to the emergency;
- An accurate location and identification of the caller both for calls coming from mobile and fixed phones.
- A continuous availability in an electronic format of data relative to calls. This availability allows the different emergency organizations to save time in storing data activities.

Both citizen and emergency organizations have judge strongly successful the implementation of the project and the results achieved. This acquirement represent the first step in order to further develop

the project by designing and implementing, on a Regional level, new operational infrastructures based on the Varese one.

Furthermore the project evaluation made by different stakeholders has contributed to give to the European Commission an appropriate report in order to the implementation in Italy of NUE and to the real chance to replicate the model in other Italian regional contexts.

#### **FEW WORDS ABOUT THE COSTS OF THE PROJECT**

Pro - capita cost incurred to finance the project has been less than one Euro per year for every Italian citizen to ensure service NUE112.

#### **Further developments of the project: the extension over all Lombardy Region**

On January 2011 the Italian Ministry for Internal Affairs has created a Technical Board responsible for the delivery of a project to extend all over the Lombardy Region the Varese pilot experiment. The Technical Board is expected to do a deep analysis of all the technical and operational elements of the project and to evaluate global costs of its diffusion all over Lombardy. Taking into account the Lombardy population, the number and location of PSAP2 and including, finally, even the operational path for organize the emergency service all over the region, the Technical Board has defined a project that forecasts the need of 3 call centers in order to satisfy the entire regional need. The hypothesis is to locate these 3 call centers in the Milan area, in the Brescia area and in the Varese area. At the same time the Technical Board has decided to create two separate commissions for:

- a) define a new procedures and rules scheme for more complicated contexts such the Milan context;
- b) define in a very detailed way the technological aspects of the two new call centers.

On March 28th the final document elaborated by these commission has been approved and undersigned by the regional officers.

#### **Economical implications of the extension of the project all over the Italian Country.**

A partial application at the National level of the performances obtained in the Varese area in terms of:

- a) reduction of inappropriate calls and
- b) time savings , (a reduction of 20% instead of a reduction of 50% that represents the actual performance)

could lead to a reduction in global costs that could reach some € 20,000,000 / year.

It is also important to focus attention on the possibility to aggregate many existing 118 centrals. The re-organization of these structures may be also advantageous under a financial point of view. In fact, the two-tier model allows a more efficient use of resources specific to the second level in case of Emergency Care. This point may strongly support the redefinition of territorial jurisdiction for the existing 118 service.

# QUALITY MANAGEMENT AT INSTITUTES OF HIGHER EDUCATION

## Development of measures to reduce dropouts and leaves of absence at the FHWien University of Applied Sciences of WKW

**Barbara Covarrubias Venegas**, FHWien University of Applied Sciences of WKW, barbara.covarrubias@fh-wien.ac.at

**Gudrun Gaedke**, FHWien University of Applied Sciences of WKW, gudrun.gaedke@fh-wien.ac.at

**Gerald Janous**, FHWien University of Applied Sciences of WKW, gerald.janous@fh-wien.ac.at

**Stefanie Recker**, FHWien University of Applied Sciences of WKW, stefanie.recker@fh-wien.ac.at

### 1 Introduction

Service quality in public administrations is becoming more and more important. In particular, universities are increasingly becoming service providers, and thus face a competitive market of private and public universities. The increased competition, tightened by the introduction of bachelor's and master's programs, has led universities to improve the quality of their services. In addition to the increasing competition, quality management has become more important with regard to the dropout rates of students due to overwork - an issue which has to be addressed by higher education as well. Part-time students represent a special risk group as they have to handle a triple burden of job, family and study.

At Austrian universities, more than 120 bachelor's or master's degree programs are offered in part-time form (see, FHR, 2010). The FHWien University of Applied Sciences of WKW offers a range of 16 bachelor's and master's degree programs at eight institutes. Thereof, 12 programs can be completed in tandem with full-time or part-time employment, meaning that students are full- or at least part-time employed and additionally take the full load of coursework each semester. To enable students to study while they are employed, classes consisting only of part-time students take place in the evenings and on weekends. These students must balance work, study and private or family life (cf. Schlögl & Neubauer, 2006). The fact that occupation, family life and leisure factors influence academic success can especially be seen in stress and exhaustion in students. The effects of this strain result in increased dropout rates or prolonged interruptions of study (academic leave of absence) as well as in an increased number of health-related issues of the student over a longer period (see Unger & Wroblewski, 2006). Thus, the phenomenon of burnout may be seen increasingly in institutions of higher education (see Gusy, Lohmann & Drew, 2010; Unger, Zaussinger et al, 2010).

Since the proportion of part-time students will rise due to the establishment of master's degree programs in the next few years, the need for systematic knowledge that can help to design measures which counteract burnout and which enhance the quality of the study will increase.

Currently, 46% of our students are enrolled as part-time and 54% as full-time students. After full expansion of our programs, following the completion of the BA/MA changeover phase (in the academic year 2011/2012), the percentage of part-time students will rise to approximately 60%.

Facing the problems of dropout and negative health effects in students, the FHWien courses of the WKW sought to identify the factors that can affect academic success systemically over the course of the semester, in order to incorporate preventive measurements in teaching as well as in the central university organization from an early stage. In a three-year qualitative and quantitative longitudinal study, the students were regularly surveyed about their stressful situations with regard to their studies or organizational aspects of their studies as well as with regard to their work and private lives.

The conducted study has several aims:

- improve the quality of the curriculum through continuous adaptation based on feedback and knowledge of the situations of students
- identify and create awareness of student problem areas which are not recognized or which are misunderstood by staff and teachers
- sensitize teachers and students through the results of the survey
- enhance self-selection of candidates by better information on the likely requirements of part-time studying
- improve support measures by the institutes to enable a successful graduation

## **2 Empirical Study**

The present study examines the impact of studies, work and private life on the stress level of part-time students. It also determines whether and where the burden on part-time students differs from that on full-time students. Sex differences were also considered, and strategies the students use to reduce exhaustion were collected. The present longitudinal study also allows the investigation of an age-group effect in terms of perceived stress.

### **2.1 Method**

The present study represents a long-term study designed for a period of three years (2009 - 2011). In the present study, results were from the quantitative surveys of the winter semester 2008, the summer semester 2009, the winter semester of 2009 and the summer semester 2010.

The surveys consisted of groups of students of bachelor's degree programs at the WKW FHWien courses from the academic year 2007/08. The analysis of an entire bachelor's degree program consisting of six semesters is only possible for the academic year 2008/09, which ends in 2011. The master's programs could not be considered due to the small number students in the programs.

A total of 2,033 students took part in the survey, of which 1,071 study part-time and 962 full-time.

The gender distribution of participants in both forms of study corresponds to the global gender distribution of 60% women and 40% of men at the FHWien University of Applied Sciences degree programs of WKW.

The response rates of all respondents varied from 23% to 36%; with consistently more than 20% for an online survey, they can be classified as very good.



At the end of each semester, the subjective stress situation of the students for the previous semester has been measured by a quantitative survey using an online questionnaire. The questionnaire covers the perceived stress in college, work and private life, on a scale from “1 = not at all” to “10 = very strong”. In order to more effectively compare the situation of the students, perceived work-life balance before the study was recorded. In addition, the impact of each course, the stress due to exams as well as the additional workload for each individual course was evaluated by the students. Furthermore, stress factors such as travel times, children, and care of relatives were investigated.

Moreover, students were asked about their strategies for dealing with stressful situations. They rated these strategies on a scale from “1 = strongly disagree” to “10 = is very strong”. As possible strategies, the following statements could be rated:

- My effort was well distributed over time (e.g. through early learning for exams).
- By working together with fellow students, I have reduced work effort (e.g. through joint examination preparation).
- I have reduced my level of ambition on my own merits.
- I have reduced private activities (family, friends, hobbies ...).

To analyze the differences in stress factors and coping strategies which were used by part-time students and full-time students, t-tests were performed. Gender differences were also tested using t-tests. Furthermore, extreme groups (heavily-exhausted compared to normally-exhausted students) were formed and the configuration of the groups investigated by chi-square tests. In order to do this, a total exhaustion value of the three components measured in the study (stress due to the study, stress at work and stress in private life) was calculated and consequently, the extreme groups "heavily exhausted" and "normally exhausted" were formed. From a general value of exhaustion of at least 24, students were included in the heavily-exhausted group; with a value below 24, students were assigned to the normally-exhausted group. This means that people who reported at least a value of 7 in all three areas on a scale from “1 = not at all” to “10 = very strong” were rated as highly exhausted.

The data are normally distributed and the variances homogeneous (Levene's test  $> 0.05$ ).

In addition to the online survey, the subjective stress experience in extreme situations was examined by qualitative interviews with students and graduates who suffered burnout. For that, a semi-structured interview guide was developed and adapted for a pretest phase. A total of 13 interviews were conducted. The analysis of qualitative data is being done.

## **2.2 Results of the quantitative survey**

In the following, the main elements of the investigation are presented.

### **2.2.1 Exhaustion of full-time compared to part-time students**

The results of t-tests show that full-time ( $M = 6.67$ ,  $SD = 1.91$ ) and part-time students ( $M = 7.26$ ,  $SD = 1.73$ ) differ with regard to the impact of the study ( $p < .001$ ) with part-time students feeling more burdened by the study.

The exhaustion in relation to private life is similar for both forms of study. Part-time students ( $M = 3.39$ ,  $SD = 1.91$ ) found their private lives before the studies less stressful than full-time students ( $M = 4.00$ ,  $SD = 1.97$ ), the difference being highly significant ( $p < .001$ ). With studying, perceived stress in part-time students regarding private life increases to the same level as that of full-time students.

	Study form	M	SD	p
Burden by the study programme	full-time	6.67	1.91	
	part-time	7.26	1.73	< .001*
Burden by private life before starting to study	full-time	4.00	1.97	
	part-time	3.39	1.91	< .001*
Burden by private life while studying	full-time	5.03	2.24	
	part-time	5.09	2.24	.547

**Table 1: Exhaustion of full-time compared to part-time students**

### 2.2.2 Strategies of the students in dealing with stress

With a view to the chosen strategies for stress reduction, the results show that the reduction of the workload by working with fellow students applies significantly less ( $p < .001$ ) for part-time students ( $M = 4.92$ ,  $SD = 2.68$ ) than for full-time students ( $M = 5.43$ ,  $SD = 2.68$ ). In addition, part-time students have reduced private activities ( $M = 8:07$ ,  $SD = 2:34$ ) significantly more ( $p < .001$ ) than full-time students have ( $M = 6.16$ ,  $SD = 3.19$ ). This accounts for the reduction of the level of demands on own merits ( $M = 4.56$ ,  $SD = 2.82$ ) ( $p = .13$ ) as well. Full-time students, however, reduced their professional activity ( $M = 4.77$ ,  $SD = 3.55$ ) ( $p = .011$ ) more than part-time students did ( $M = 4.38$ ,  $SD = 3.07$ ).

	Studienform	M	SD	p
I reduced my workload by working with fellow students	full-time	5.43	2.68	
	part-time	4.92	2.68	< .001*
I reduced my private activities (family friends, leisure time...).	full-time	6.16	3.19	
	part-time	8.07	2.34	< .001*
I reduced the level of demands on my own merits.	full-time	4.56	2.82	
	part-time	4.91	2.97	.013
I reduced my professional activity.	full-time	4.77	3.55	
	part-time	4.38	3.07	.011

**Table 2: Strategies of the students in dealing with stress**

### 2.2.3 Exhaustion in women and men

In full-time studying, there are gender differences in terms of perceived stress. Female students ( $M = 6.83$ ,  $SD = 1.88$ ) feel more stressed by studying than male students do ( $M = 6.34$ ,  $SD = 1.94$ ), ( $p < .001$ ). Female students ( $M = 3.48$ ,  $SD = 2.27$ ) also feel more exhausted by their jobs before studying than male students do ( $M = 3.55$ ,  $SD = 2.34$ ),  $p = .004$ . Compared to male students ( $M = 5.7$ ,  $SD = 2.24$ ), female students ( $M = 6.09$ ,  $SD = 2.65$ ) perceive that they have distributed their workload better,  $p = .045$ . Female students ( $4.72$ ,  $SD = 2.65$ ) reduce the level of demands on their own merits more than male students do ( $M = 4.2$ ,  $SD = 2.74$ ), since ( $p = .018$ ) they report reducing private activities more than male students do ( $M = 6.57$ ,  $SD = 2.99$ ,  $M = 5.25$ ,  $SD = 3.15$ ) ( $p < .001$ ).

In part-time students, gender differences can also be found in terms of perceived stress. Men work significantly more hours than women ( $M = 40.26$ ,  $SD = 9.24$ ,  $M = 36.39$ ,  $SD = 10.5$ ),  $p < .001$ . Women feel more exhausted by studying ( $M = 7.36$ ,  $SD = 1.64$ ,  $M = 7.07$ ,  $SD = 1.89$ ),  $p = .011$ , even though they work fewer hours than men, whereas men feel more exhausted by their jobs ( $M = 6.74$ ,  $SD = 2.40$ ,  $M = 6.35$ ,  $SD = 2.39$ ),  $p = .004$ . Men ( $M = 5.67$ ,  $SD = 1.84$ ) also report a higher perceived job strain before the beginning of their studies than women do ( $M = 5.4$ ,  $SD = 2.11$ ),  $p = .045$ . Regarding the impact of private life before the studies, male students ( $M = 3.56$ ,  $SD = 1.86$ ) differ significantly from female students ( $M = 3.31$ ,  $SD = 1.95$ ),  $p = .049$ . This applies equally to the burden of compulsory attendance ( $M = 1.49$ ,  $SD = .073$ ,  $M = 1.37$ ,  $SD = .61$ ),  $p = .015$ , whereas in general, average values are very low. This means that men and women differ significantly from each other with averages of 3.31 or 3.56 to 1.37 and 1.49. However, the averages are so low that actually no burden is reported (from "1 = strongly disagree" to "10 = agree very strongly").

With no regard to the form of male and female students differ significantly in the following areas: women work ( $M = 23.64$ ,  $SD = 16.94$ ) significantly fewer hours per week than men ( $M = 26.88$ ,  $SD = 18$ ) ( $p < .001$ ) and feel more exhausted by the studying ( $M = 7.11$ ,  $SD = 1.78$ ) ( $p < .001$ ) than men ( $M = 7.74$ ,  $SD = 1.95$ ). Men ( $M = 5.32$ ,  $SD = 2.66$ ) feel more burdened by the occupation ( $p = .011$ ). In the area of stress due to private life, there is no difference between men and women. Women ( $M = 7.36$ ,  $SD = 2.77$ ) have reduced private activities more than men ( $M = 6.82$ ,  $SD = 3.08$ ) ( $p < .001$ ).

	Study form	M	SD	p
Working hours per week	men	26.88	18	
	women	23.64	16.94	< .001*
Burden by the study programme	men	7.11	1.78	
	women	6.74	1.95	< .001*
Burden by work	men	5.32	2.66	
	women	4.99	2.64	.011
Burden by private life	men	4.77	3.55	
	women	4.38	3.07	.011
I reduced my professional activity	men	7.36	2.77	
	women	6.82	3.08	< .001*

**Table 3: Exhaustion in women and men**

### 2.2.4 Comparison of extreme groups

Within the group of highly-exposed students, men ( $n = 61$ ) and women ( $n = 96$ ) hardly differ in regard to the level of general exhaustion (075).

There are significantly more exhausted part-time students ( $n = 142$ ) than full-time students ( $n = 22$ ),  $p < .001$ .

Heavily-exhausted ( $M = 38$ ,  $SD = 10.16$ ) students differ from normally-exhausted students ( $M = 24$ ,  $SD = 17.40$ ) with regard to hours worked per week ( $p < .001$ ), to the burden of the

occupation before studying (M = 5.91, SD = 1.99 to M = 4.55, SD = 2.37),  $p < .001$  and to the strategy of lowering demand level on own merits (M = 5.76, SD = to M = 4.65, SD = 3.02),  $p < .001$  as well as on the reduction of private activities (M = 9:09, SD = 1.82, M = 7.02, SD = 2.9),  $p < .001$ .

	Study form	M	SD	p
Working hours per week	Heavily-exhausted	38	10.16	
	normally-exhausted	24	17.40	< .001*
Burden by work before starting to study	Heavily-exhausted	5.91	1.99	
	normally-exhausted	4.55	2.37	< .001*
I reduced the level of demands on my own merits	Heavily-exhausted	5.76	3.03	
	normally-exhausted	4.65	3.02	< .001*
I reduced my private activity	Heavily-exhausted	9.09	1.82	
	normally-exhausted	7.02	2.9	< .001*

**Table 4: Comparison of extreme groups**

Heavily-exhausted full-time students also differ from normally-exhausted full-time students in terms of hours worked per week (M = 22, SD = 11.88 to M = 10, SD = 10.26) (3.08 M = 8.86, SD = 2.44 to M = 6.11, SD =) and the reduction of private activities.

### 2.2.5 Comparison of age groups

Age group differences could not be found in either the different coping strategies or stress factors or in terms of the total exhaustion in college, work and personal life.

## 2.3 Results of the qualitative study

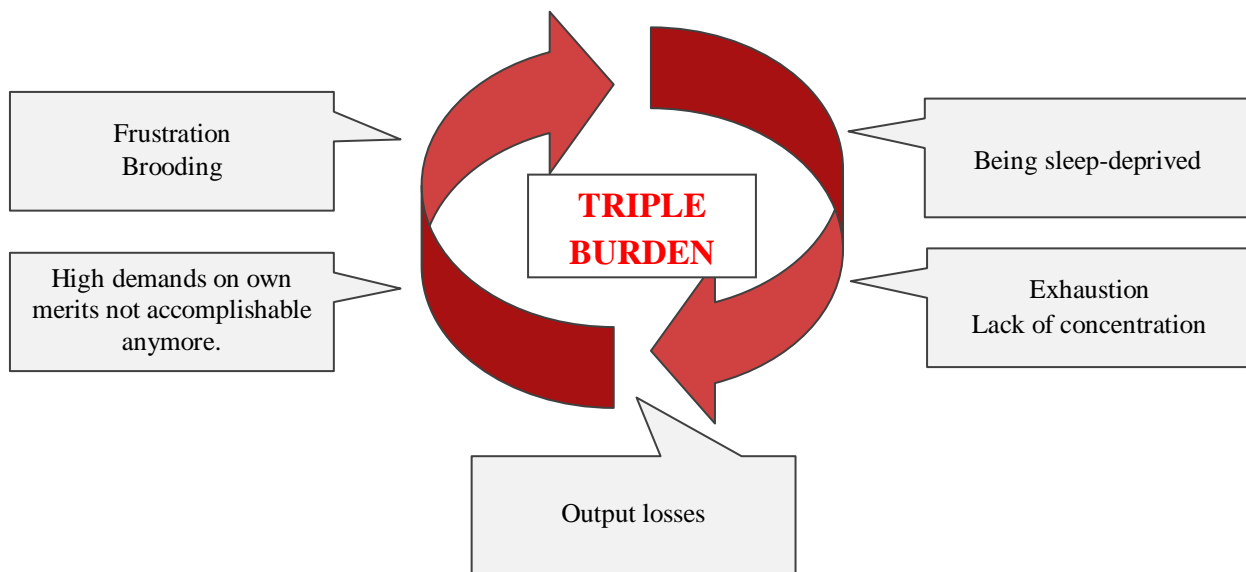
The analysis of qualitative data is not yet complete; however, the first tendencies presented here could already be derived.

In a qualitative analysis, it was found that the students were able to perceive an improvement in the organization of the course dates and in the testing organization. To generalize the peak of the individual stress situations, the interview tied to the various phases of the burden situation, where it was recognized that the students start with a very high level of enthusiasm

the first year and also cope with the demands on their own merits. In the cases we examined the majority of the interviewees reached a first feeling of “burnout” at the end of the third semester and reached the peak in the second third of their study.

The factors that can lead to burnout, as mentioned in the literature, were also found for the interviewed students, as illustrated in the following figure.

Die in der Literatur untersuchten Faktoren, die zu Burnout führen können, wurden in den Interviews von den Studierenden ebenfalls genannt.



**Figure 1: Factors causing the triple burden (Source: Working and Studying: Guideline for the Management of Burden Situations, 2011, developed by the project team)**

### 3 Discussions

With the results of the study, new empirical evidence on the level of exhaustion and stress in students is available. As assumed in advance, it was found that part-time students felt more exhausted than full-time students.

Part-time students do not feel more burdened by private life than full-time students, but rather part-time students perceive their personal lives as significantly less stressful before studying. The burden thus increases in this area, but does not exceed the perceived burden of the private life of full-time students. This suggests that family and friends may be seen as a resource, as also shown by the study of Jacob & Dodd (2003).

In terms of dealing with stressful situations, there are differences between full-time and part-time students. Part-time students find that working with fellow students does not reduce the amount of work. From the qualitative interviews, it became clear that meetings and coordination with colleagues represent more of an effort for part-time students, since that extra time is needed for the coordination of meetings and the meetings themselves.

Part-time students reduced the demands on their level of performance during the study as a result of the stress. In addition, part-time students reduced their private activities much more

than full-time students did. Especially highly-stressed students used these strategies more frequently. It is also striking that full-time students reduced their professional activity more than part-time students did.

The combination of these strategies (reducing private activities instead of workload) may be one reason that more part-time students are highly stressed. Private activities (friends, family, hobbies...) are actually an important resource in helping to avoid burnout. One explanation why part-time students do not reduce working hours is that employment is the only possibility of financing themselves.

In the "risk group" of the highly-exhausted students, men and women do not differ much in terms of exhaustion. Although women work on average fewer hours than men, women perceive a higher burden by studying.

The results indicate that exhausted part-time students reduce the demands on their performance, which may actually be assessed as an appropriate strategy for reducing the burden; however, this is a subjective assessment of the exhausted students. People prone to burnout may be characterized by very high performance demands, which may not always be accomplishable. However, in some cases it may be possible that the reduction of demands on one's own performance represents depersonalization, which is a sign of burnout. Depersonalization is a sign of overwork, and can be interpreted as an attempt to distance oneself from one's work, so that demands and requirements become manageable again (see Maslach, Schaufeli & Leiter, 2001).

In the "risk group" of the highly-exhausted students, men and women hardly differ from each other. Although women work on average fewer hours than men, the burden of studying is higher.

The full-time students who are just as exhausted as part-time students show similar strategies of reducing stress. They reduce private but not professional activities and reduce the level of demands on their own performance. This pattern is found in exhausted students regardless of any form of study.

Furthermore, it is striking that the relatively small group of full-time students who are heavily exhausted work on average 22 hours per week, yet part-time students do not experience a high burden until they work 41 hours per week. The normally-loaded part-time students work an average of 37 hours per week. As such, the importance of the subjective perception of the workload, as addressed by Jacobs & Dood (2003), becomes clear. However, the high number of working hours, as well as the high number of heavily-burdened part-time students, show that the number of hours worked represents a major stress factor.

A striking result in the prevention of burnout among students is that highly-exhausted students (in comparison to other students) had already experienced a high load of stress in their private and professional lives before their studies. This became clear in qualitative interviews as well, where it became apparent that highly-stressed students were often already exhausted before they started studying.

The results also show that studying itself is perceived as a lower-impact factor in exhaustion than the profession. This may be due to a feeling of power and achievement provided by

studies. A problem with burnout is that feelings of inefficiency and emotional exertion become predominant. Studies may contribute (through continuous performance feedback and social reinforcement by teachers and fellow students) to an increase of self-worth and thus serve as a resource. It is, therefore, possible that burdened students do not perceive studying as a strong stressor.

## **4 Conclusions for the institutes of higher education practice**

The results provide new empirical evidence on the level of exhaustion and stress in part-time students during the course of their studies at technical colleges. The results allow conclusions for the teaching environment and the central organization of institutes of higher education, from where specific measures at the individual level of the students can be derived.

Special attention should be paid to sensitizing affected students themselves, fellow students, teachers and staff of the university as well as prospective students and applicants to this subject, so that action can be taken in an early stage. The central organization of institutes of higher education should therefore focus on information and provision of support activities.

As a first reaction to the study results, some changes and adjustments have been made:

In the study / university organization: distribution of exams throughout the semester, distribution of courses in the curriculum on the level of exhaustion.

Raise awareness of students, staff and teachers about the influence of

- family life: family expectations of academic success, time for socializing, family conflicts
- work: working overtime, work overload, time pressure, business trips, high responsibility, pressure to perform
- demands on oneself: internal factors that support the burnout, e.g. perfectionism, high demands on oneself as well as on others, non-identification with work, no acceptance and recognition of one's own limits and possibilities, difficulties in saying 'no,' feeling of responsibility for everything

Following the longitudinal study, students were asked in an open-ended question if they had noticed any measurements taken by the university.

Generally many students had noticed:

1. better distribution of exams throughout the course of the semester
2. better distribution of classes, better schedule
3. discussion with teachers about stressful situations
4. exchange of teachers after negative evaluations

Another important measure to promote awareness of student exhaustion is a guide to managing stressful situations. The guide was developed on the basis of the results of the study, on qualitative interviews with students who had experienced burnout as well as on existing burnout literature. The guide contains background information about the contributors to burnout, internal and external stressors, case studies, early warning signs, signs of burnout



and tips for persons concerned as well as for their families, friends and colleagues. This guide is not only made available to students and prospective students, but also generally used in the organization of institutes of higher education.

## 5 Conclusion and future implications

A major part of burnout prevention is education and awareness about burnout in students. Awareness should be raised from the beginning of the study pursuits. In the future, screenings and a self-test should be made available for students before they start studying to enable them to reflect on their decision and assess their current situation. This may induce a process of self-reflection and leave students room to take measures before the studies start.

In addition, universities should evaluate the level of stress which is experienced by the students on a regular basis. This not only provides awareness of exhausting situations but also enables universities to take measures (e.g. a different schedule distribution as was done by the FH Wien).

Since the presented study is a long-term study, it will be possible to derive the potential exposure situations throughout the course of the study of a bachelor's degree at the end of the survey in 2011. The next step will be to investigate whether the results can be generalized due to the organization of the study, or if age group effects are crucial for the results.

## 6 Literature

**FHR (Fachhochschulrat)**, *Aktuelle Statistische Auswertungen* (2011). [www.fhr.ac.at](http://www.fhr.ac.at).

**Greenglass, E. R., Burke, R. J. & Fiskensbaum, L.** (2001). *Workload and burnout in nurses*. *Journal of Community and Applied Social Psychology*, 11, 211-215.

**Gusy, B., Lohmann, K. & Drewes, J.** (2010). Burnout bei Studierenden, die einen Bachelor-Abschluss anstreben. *Prävention und Gesundheitsförderung*, 3/2010, 271 – 275.

**Jacobs, S. R. & Dodd, D. K.** (2003). *Student Burnout as a Function of Personality, Social Support and Workload*. *Journal of College Student Development*, 44, 291-303.

**Maslach, C., Schaufeli, W.B. & Leiter, M. P.** (2001). *Job Burnout*. *Annual Review of Psychology*, 52, 397-422.

**Maslach, C., & Jackson, S. E.** (1981). *Maslach Burnout Inventory* (2nd ed.). Palo Alto, Ca: Consulting Psychologists Press.

**Schlögl, P., & Neubauer, P.** (2006). *Vereinbarkeit von Studium und Berufstätigkeit in ausgewählten Universitäts- und Fachhochschul-Studienrichtungen in Wien*, öibf - Österreichisches Institut für Bildungsforschung, Wien.

**Unger, M., & Wroblewski A.** (2006). *Studierenden-Sozialerhebung 2006. Bericht zur sozialen Lage der Studierenden*. IHS Projektbericht, Wien.

**Unger, M., Zaussinger, S. & al.** (2010). *Studierenden-Sozialerhebung 2009. Bericht zur sozialen Lage der Studierenden*. IHS Projekbericht, Wien.

# ***New technology for Strategic Management Policy in Small Areas: the 'GIS Piedmont region'***

Monica Cugno<sup>♥</sup>, Scilla Angela<sup>♠</sup>

Business Economics Department – Economics and Business Management Section  
C.soUnione Sovietica, 218/bis  
10134 – Torino  
Phone (+39) 011/670.60.51 Fax (+39) 011/670.60.52  
E-mail: [monica.cugno@econ.unito.it](mailto:monica.cugno@econ.unito.it); [scilla@econ.unito.it](mailto:scilla@econ.unito.it)

**Abstract:** The report describes the results of a *pilot project* on strategic management policies in business-area systems carried out with the objective to experiment with alternative methods of delivery and analysis of the geospatial data. This has been constructed through integration between three components *open-source licenses*: a geographical information system (GEODATA), a data analysis programming language and environment (R) and a *database* system (PostGIS).

The analysis introduces an *ad hoc* advanced quantitative methodology for the strategic management policies of small-sized business-area systems.

The making of this study was organized into phases:

1. Creation of a set of indicators to measure the phenomenon.
2. Identification of variables, data collection and data analysis methodology.
3. Detection of any *business-area system clusters* and/or of *spatial outliers*.

The system – called 'GIS *Piedmont region*' – is currently available in its *prototype* form with data of the Piedmont region (*North Italy*) for the period from 2000-2010, that can be integrated with new information, geographic and statistic *tools*.

**Keywords:** *Strategic Management Policy, Indicators, Exploratory Spatial Data Analysis, Cluster, GIS*

## **1. The problem**

Over the past decade, the economic changes that have affected all modern economies have outlined a new concept of territory, less and less identified with the physical and spatial extent of a place but as a social organization, resulted from the interaction of relations among the actors who are embedded in it [Golinelli C.M., 2002].

The territory becomes a strategic asset for local development which is meant as the result of collective actions made possible by the common belonging to it and as a strengthening of all potential resources that reside in it.

---

<sup>♥</sup> Although this *paper* is based on collaboration, Monica Cugno, Ph.D., is to take credit for paragraphs 3, 4 and 6; and Angela Scilla is to take credit for paragraphs 1, 2 and 5.

<sup>♥</sup> Monica Cugno, Ph.D. in Statistics Applied to the Economic and Social Sciences – University of Padova. Now is Professor of Economics and Business Management at the Faculty of Economics – University of Torino.

<sup>♠</sup> Angela Scilla, Ph.D. Student in Business and Management – University of Torino.

One of the most direct consequences of globalization is the extension of the concept of competition to the territories as systems which are more or less able to create within themselves the conditions for economic and social development, since they support the local firms and attract new entrepreneurship from the outside [Golinelli, 2000; Barile, 2006; SINERGIE, 2007; Tardivo, 2007]. In other words, the territory and its networks [Rullani, 2004, 2006, 2008] play a key role in the enterprise innovative dynamics thanks to typical features, which are the determinants of strategic and decision making processes of the business system.

There are numerous contributions that have highlighted the need to explore the external factors that affect the competitive success of the company [see, among others: Porter, 1990; Salone, 2005; Garofoli, 2003; Caroli, 2006; Favaretto, 2006; Camuffo and Grandinetti, 2006; Viassone, 2008; Tardivo and Cugno, 2011].

The factors that affect the competitive success (*externalities*) must be identified and interpreted as changing and dynamic phenomena. They must be studied over *time* and *space*, considering the production, economic and social changes, which characterize the local context.

On the one hand if today there is no doubt about the importance of externalities, on the other hand there are discrepancies and gaps in the methodological approach and in the analytical instrumentation support. Contributions aimed to propose *set* of indicators, to validate the usefulness of methods of multidimensional analysis and/or storage system, analysis and return of the information, in fact, are still limited in number and overall they cover only part of cognitive demand.

It should be noted that a fair share of research in the this field is taking shape outside the area of the study of strategic *management* and is prepared for purposes which are different from those of the business world. Consequently, it “suffers” a limited sensitivity to the managerial implications of the production system as a whole or of the individual business units.

One aspect, up to now neglected, regards the creation of an information system that is suitable not only for the study of all possible aspects of the facts but at the same time simple enough to be used by both expert and less experienced users.

Such a system must be capable of organizing information with different levels of territorial detail and be produced, up-dated and implemented with a restricted cost.

Such an objective could be achieved thanks to the recent development of geographic information systems (GIS). These allow for the placing side by side of the traditional mechanisms of filing and analysis of the data with instruments that permit one to unite the information to the territorial position, that facilitate the *user-friendly* consultation with different levels of aggregation, the realization of spatial analysis and risk maps.

The original result is an *open-source* structure useful to back up the operations of the *local decision makers* in the strategic *management* policies. The application – called ‘*GIS Piedmont region*’ – is currently available in its prototype form with data of the Piedmont area for the period of 2000-2010, but easily extendible to Italy.

The article is structured as follows: the second paragraph highlights the special features of competition between territories; in the third paragraph there is reference to the characteristics of the system and to the integration between its components; the fourth paragraph will introduce the architectural parts of the project under examination and the resolution of problems for realization; the fifth paragraph shows the example of the application of GIS; the ideas that evolve as a result of the work and that establish directions useful for future development will be given in the conclusion.

## **2. Peculiarities of the territorial competitiveness**

According to an analysis of the major contributions to the enhancement and management of territories [Golinelli C.M., 2002; Caroli, 2006; Rullani, 2008;], a territory is competitive if it is able

to compete in the market ensuring, at the same time, an environmental, economic, social and cultural sustainability based on the organization in the network and on inter-territorial forms of articulation.

A competitive territory attracts capital and people. It also allows firms located there to get better results than those obtained elsewhere. Since a competitive territory enables the production and exploitation of externalities then it is able to increase the resource efficiency and to attract them. It should, first of all, understand what are the elements that compose the territory in such a way to decide what to focus on.

In addition, the development of the territory cannot disregard the involvement of institutions, local actors and policy makers, who should acquire four types of skills:

1. ability to enhance the environment,
2. ability to take joint action,
3. ability to create links among different sectors in such a way to keep on site the most value-added,
4. ability to make contact with other areas and with the rest of the world.

These four skills can be related to the “four elements” of territorial competitiveness, which are combined in a specific way in each territory, or rather:

- **“social competitiveness”**: ability of the actors of the area to act effectively together on the basis of a common conception of the territory;
- **“environmental competitiveness”**: ability of the actors of the area to enhance the environment because it is a “distinctive” element of their territory, ensuring , at the same time, the protection and renewal of natural and heritage resources;
- **“economic competitiveness”**: ability of the actors of the area to produce and maintain within the territory the maximum of the value-added, combining effectively the resources in order to enhance the specificity of local products and services;
- **positioning in the global context**: ability of actors of the area to find their own position in relation to other areas and the outside world.

Very often the territories present ambiguities as regards their geographical location, because their natural or economic-social boundaries may not coincide with those of the institutions.

This leads us to the problem to identify the skills or possible partnerships among the different actors interested in the development of the considered area.

In order to overcome these limitations, we wanted to carry out this work. For its development we need 5 steps:

1. selection of the units of analysis,
2. definition of the panel of indicators,
3. identification of sources of data and retrieval of new information,
4. creation of a geographic information system,
5. data analysis.

### **3. The creation of the structure: integration between GeoData, R, Postgis**

The creation of a GIS must consider some indispensable steps in order to function well: the system must be capable of loading and up-grading the spatial database and the attributes which are at the heart of the system. The information may be internally produced (through the statistic and geographic *tools* provided for by the system) or through external processing systems.

The proposed system is born from the integration<sup>1</sup> of GeoData [Anselin, 2004], R (R Development Core Team, 2009) and PostGIS (PostGIS, 2011) and guarantees:

- *the non-standardization of the structure*, that can be enriched with new analysis instruments through the simple implementation of the statistic and geographic *tools*;
- *the possibility to up-date/modify the available data*, without the necessity of re-designing the structure;
- *the flexibility of the examinations depending on the requirements of the people involved*.

The possibilities of analysis with GeoData are increased thanks to the utilization of spatial *tools* [Bivard, 2003; Bivard *et al.*, 2000]. This analysis is made possible thanks to the libraries (see table 1) available in the Cran R [<http://www.r-project.org>] or through the creation of new libraries.

The quality of the information produced and diffused by the structure is however not without problems of accuracy. Distortions originate from the degree of aggregation of the territorial data available and/or from the transformations they could undergo in order to make possible processing and the desired analysis [Openshaw, 1987].

**Table 1 – Principal packages on CRAN R**

Macro-Area	Package	Author/s	Main objective
Connection R-PostGIS	rpostgis	Solymosi <i>et al.</i> 2006	Read the maps through the ODBC connection and transformed or generated by the PostGIS and GEOS functions to the R system to apply further operations
Point Pattern Analysis and geostatistics	Spatial	Hornik <i>et al.</i> Else See Ripley 2002	Include: variogram/correlogram functions, surf.ls(.) and surf.gl(.) for trend surfaces and kriging, and prediction functions
	spatstat	Baddeley <i>et al.</i> 2005	Spatial Point Pattern data analysis, modelling and simulation including multitype/marked points and spatial covariates
	splanCS	Bivand 2000b	Spatial and Space-Time Point Pattern Analysis Functions
	geOR	Ribero <i>et al.</i> 2003	Model-based geostatistics
	georglm	Ribero <i>et al.</i> 2003	Functions for inference in generalised linear spatial models. The posterior and predictive inference is based on Markov chain Monte Carlo methods. Extension to the package geOR
Lattice/ Area data	Spdep	Bivand 2003– with contributions by Anselin <i>et al.</i> –	Spatial dependence: weighting schemes, statistics and models
	DCluster	Gómez-Rubio <i>et al.</i> 2005	A set of functions for the detection of spatial clusters of disease using count data. Bootstrap is used to estimate sampling distributions of statistics
Maps	Maps	Brownrigg 2005	Display of maps
	projmap		Projection code and larger maps
	Maptools	Bivand 2003	Set of tools for manipulating and reading geographic data, in particular ESRI shapefile; C code used from shapelib
	Mapdata	Bivand 2003	Supplement to maps package, providing the larger and/or higher-resolution <i>data-base</i>
	Shapefiles	Stabler 2005	Functions to read and write ESRI shapefile
	Proportional symbol maps	Tanimura S. <i>et al.</i> 2006	Providing a function and some examples

<sup>1</sup> On the problem of integration, see also Bivand *et al.*, 2000.

Interactive exploratory spatial data analysis	geoxp <sup>2</sup>	Laurent <i>et al.</i> 2006	Interactive exploratory spatial data analysis (measured at geographical sites or geographical zones) and coupling between a map and statistical graph
---	--------------------	----------------------------	---

Source: Our processing

#### 4. The 'GIS Piedmont region'

Given the necessity to organise highly detailed information (see the UE DIRECTIVE, CARE PROJECT), the elementary facts taken into consideration are: the region, the district, the metropolitan area of Turin, the towns, the number of *kms* of the main roads network (outside of the urban centres) and motorways.

To meet with the different examinations the "GIS Piedmont region" makes use of:

A) *an ad hoc indicator panel* (see Table 2) which provides clear signals in real-time of efficiency/effectiveness, in relation to the virtuous or emergency situations present in the context [Cugno, 2008]; we have identified three dimensions of indicators:

1. Territory, environment and infrastructures
2. Socio-economic aspects
3. Competitive level of the community

Each dimension was split into sub-dimensions and each of this into subcomponents:

B) *a set of maps* that can be consulted interactively. By clicking on the map the user can obtain the numeric details of the parameters under consideration or supplementary information on the facts and the territorial or infrastructural characteristics of the zone.

---

<sup>2</sup> Download: <http://w3.univ-tlse1.fr/GREMAQ/Statistique/geoxppage.htm> [October 2009]

**Table 2 – Set of indicators to analyze competitive advantage or vulnerability sources**

TERRITORY, ENVIRONMENT AND INFRASTRUCTURES	SOCIO-ECONOMIC ASPECTS	COMPETITIVE LEVEL OF THE COMMUNITY
<p><u>TERRITORY</u></p> <ul style="list-style-type: none"> <li>▪ area</li> <li>▪ altitude</li> <li>▪ amount of mountain communities</li> <li>▪ protected areas*</li> <li>▪ coastal areas in Km**</li> </ul> <p><u>ENVIRONMENT</u></p> <ul style="list-style-type: none"> <li>▪ urbanization</li> <li>▪ seismicity</li> <li>▪ Flood</li> </ul> <p><u>INFRASTRUCTURE</u></p> <ul style="list-style-type: none"> <li>▪ roads and motorways in Km*</li> <li>▪ railways in Km*</li> <li>▪ amount of airports**</li> <li>▪ amount of ports**</li> <li>▪ amount of hospital and day-hospital bed-spaces**</li> <li>▪ Universities</li> </ul>	<p><u>DEMOGRAPHIC ASPECTS</u></p> <ul style="list-style-type: none"> <li>▪ residents</li> <li>▪ house/apartment density index</li> <li>▪ old-age index</li> <li>▪ underage density index</li> <li>▪ feminization rate</li> </ul> <p><u>FAMILY AND HOUSING</u>•</p> <ul style="list-style-type: none"> <li>▪ family</li> <li>▪ cohabitation</li> <li>▪ amount of wedding services (civil, religious, total)</li> <li>▪ houses/apartments</li> <li>▪ house/apartment density index</li> </ul> <p><u>FOREIGNERS</u></p> <ul style="list-style-type: none"> <li>▪ amount of foreigners (by gender and country of origin)</li> <li>▪ underage density index</li> <li>▪ feminization rate</li> </ul> <p><u>JOB MARKET</u>•</p> <ul style="list-style-type: none"> <li>▪ amount of employed persons</li> <li>▪ employment rate</li> <li>▪ activity rate</li> <li>▪ unemployment rate</li> <li>▪ youth unemployment rate</li> </ul> <p><u>COMMUTING</u>•</p> <ul style="list-style-type: none"> <li>▪ commuting</li> </ul> <p><u>WASTE</u></p> <ul style="list-style-type: none"> <li>▪ waste quantity</li> <li>▪ recyclable materials quantity</li> <li>▪ percentage of recyclable materials</li> <li>▪ waste per resident</li> </ul>	<p><u>LOCAL UNITS</u> (by macro sector)</p> <ul style="list-style-type: none"> <li>▪ amount</li> <li>▪ LU density index by Km<sup>2</sup></li> <li>▪ LU localization quotient</li> </ul> <p><u>FOREIGN TRADE</u></p> <ul style="list-style-type: none"> <li>▪ import volume*</li> <li>▪ export volume*</li> </ul> <p><u>DOMESTIC TRADE</u></p> <ul style="list-style-type: none"> <li>▪ amount of shopping centers (by: dairy and food products, non-dairy and non-food products, mixed products)</li> <li>▪ amount of local retailers (by: dairy and food products, non-dairy and non-food products, mixed products)</li> <li>▪ amount of newsagents</li> <li>▪ amount of cafés</li> <li>▪ amount of restaurants</li> <li>▪ amount of pharmacies</li> <li>▪ amount of post offices</li> </ul> <p><u>BANKS AND CREDIT</u></p> <ul style="list-style-type: none"> <li>▪ deposits</li> <li>▪ jobs</li> <li>▪ amount of tellers</li> </ul> <p><u>TOURISM</u></p> <ul style="list-style-type: none"> <li>▪ amount of beds in hotel facilities;</li> <li>▪ amount of beds in non-hotel facilities;</li> <li>▪ amount of museums and state galleries, monuments, state archeological sites, art institutes</li> <li>▪ arrivals</li> <li>▪ attendance</li> </ul> <p><u>OTHER TOURIST ATTRACTIONS</u></p> <ul style="list-style-type: none"> <li>▪ cultural services (religious and non-religious traditions, cultural events)*</li> <li>▪ leisure services: farm holiday services, specific services (trekking, cycling...)</li> <li>▪ sporting events*</li> <li>▪ amount of disco clubs, ballrooms...*</li> <li>▪ beauty and wellness services*</li> <li>▪ local products*</li> </ul>
<p>▪ *Unavailable datum at a town level    ** Irrelevant datum    • Census data</p>		

Source: Our processing

The predisposition of the instruments sub A) and sub B) have rendered indispensable the individualization and validation of opportune analysis instruments implemented to generate the

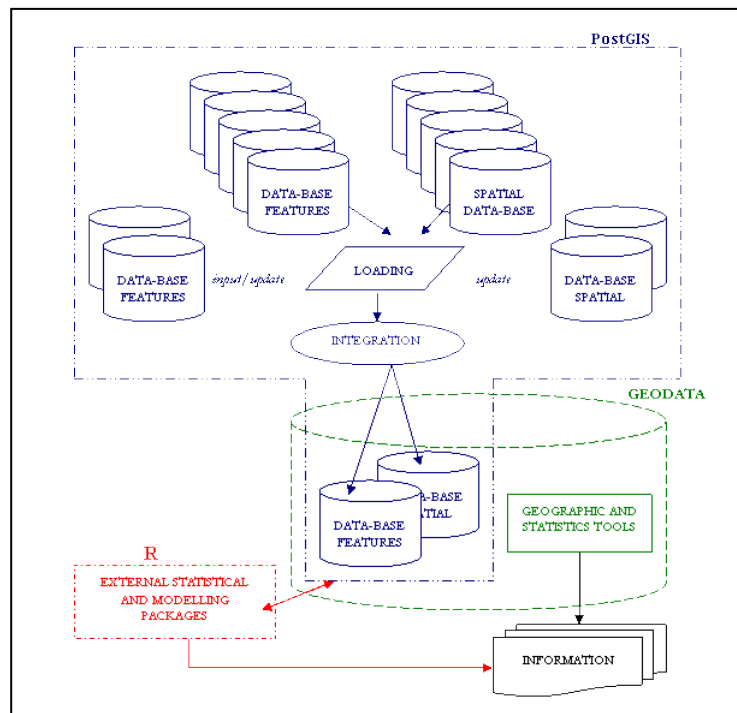
desired information.

The heart of the GIS 'Emergency Map Open Source' – PostGIS – (see Figure 1) is made up of:

- a) *spatial database*, for the cartographic representations;
- b) *database features*, for measuring the levels of competition/vulnerability.

The latter are made up of existing records and must be up-dated by means of the insertion/modification of the data as it is made available.

**Figure 1 – The structure of GIS 'Piedmont Region'**



Source: Our processing

For the construction of the *database*, there have been integrated and duly enlarged upon [Cugno, 2008], after a careful evaluation of the comparability, more data sources (see Table 2).

The data have been stored in such a way as to guarantee the levels of aggregation desired or rather maintaining the information: accurate only for the towns; areas (towns, districts, provinces and regions).

The *layers* currently loaded are of a vector type: *points*, towns/districts centres; *polygons*, towns, districts, provinces and regions (see Piedmont region Cartographic collection: <http://www.regione.piemonte.it/repertorio>).

The information may be internally produced (through the statistic and geographic *tools* provided by the system –GeoData –) or through external processing systems – **R** – .

## 5. Worked examples

The previously built architecture allows us to refer to a geographic information system automatically, leaving the user the choice of the detail:

- *macro-area level* (e.g. Region)



- intermediate or *sub*-area level (e.g. Province)
- *micro*-area level (e.g. Town)

In addition to the geographical perspective, the phenomenon can be investigated through a thematic (by attributes such as images, sounds, text, etc..) and/or time perspective.

The choice of GIS allows the user to consult the maps interactively allowing to obtain additional information about the phenomenon and the spatial or infrastructure features of the area, clicking on the map.

An example of the work done is then illustrated through the application of 'GIS Piedmont Region' in the job market.

The job market is certainly demonstrated a strategic resource for determining the levels of competitiveness/vulnerability of a territory.

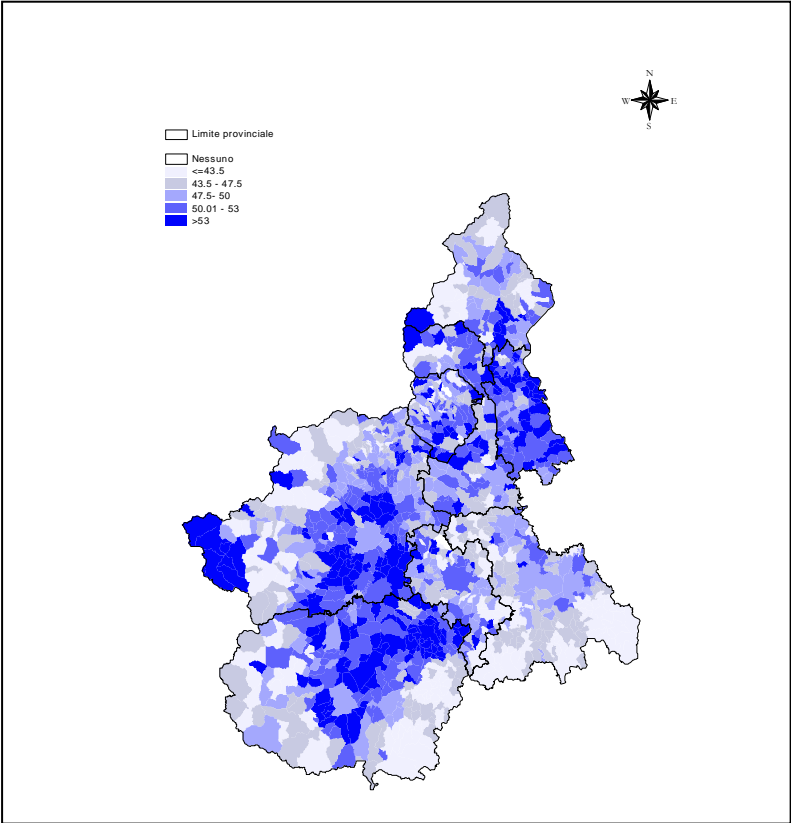
The job market, for its economic and social centrality, is one of the dimensions of company life investigated especially at the municipal level.

By limiting the analysis to the main statistical indicators we have taken into consideration:

- *activity rate*
- *employment rate*
- *unemployment rate*
- *youth unemployment rate*

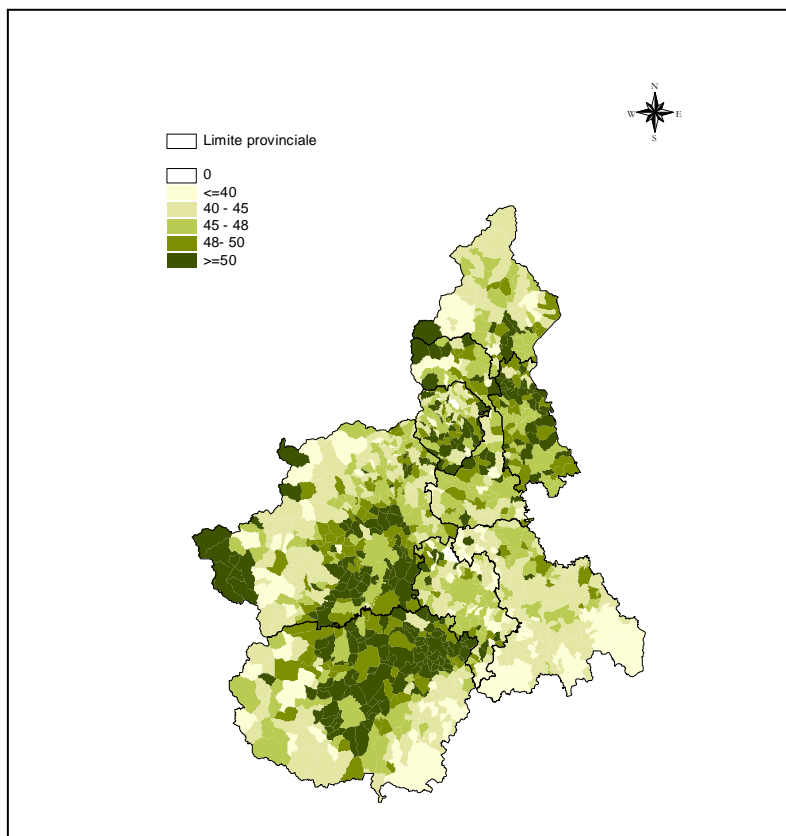
The support of cartographic representations (see Table 3, 4, 5 and 6) of the indicators considered allows us to perceive accurately the relationship among the measured phenomena. Administrative areas where the employment rate is more important are also those where there is the higher propensity for people to see themselves like part of the labor force. Moreover, the largest thickenings are independent of the provincial border.

**Table 3 – The job market maps in the Piedmont Region – Activity rate per 100 inhabitants**



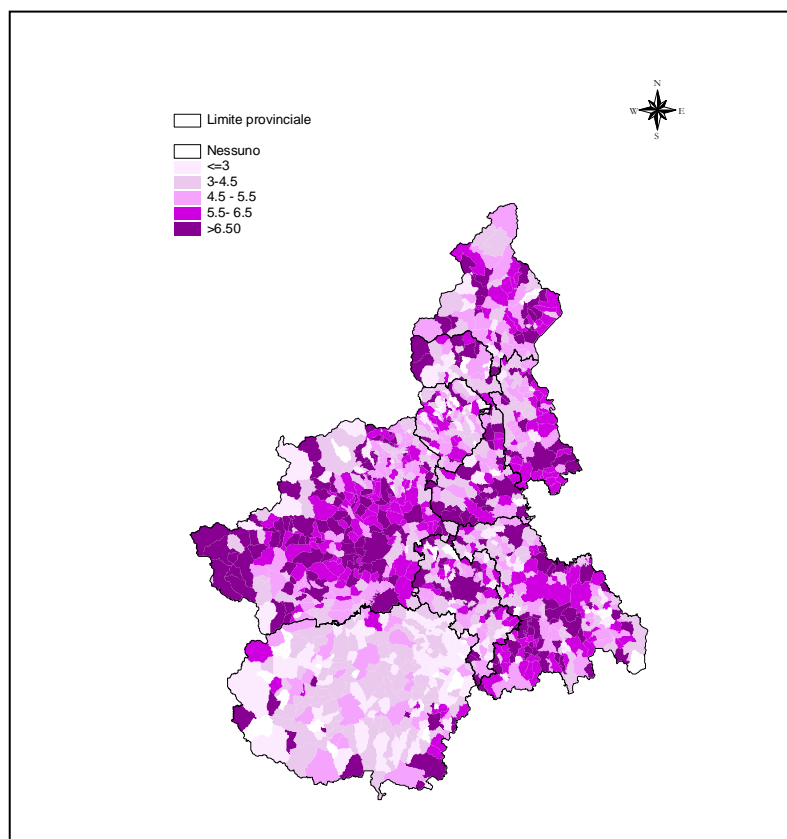
Source: Our processing

**Table 4 – The job market maps in the Piedmont Region – Employment rate per 100 inhabitants**



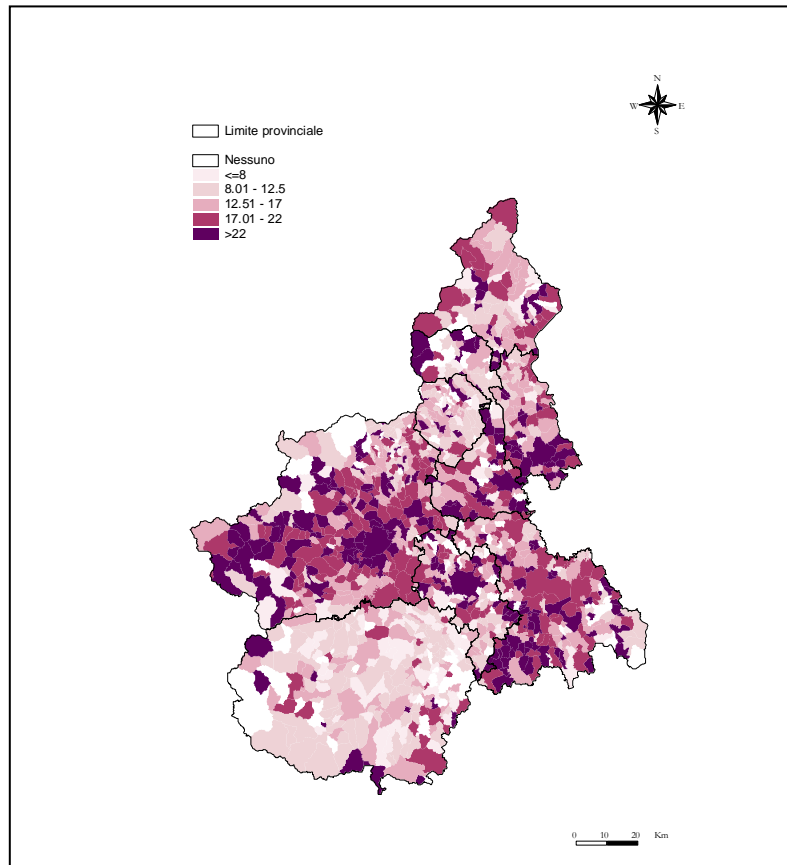
Source: Our processing

**Table 5 – The job market maps in the Piedmont Region – Unemployment rate per 100 inhabitants**



Source: Our processing

**Table 6 – The job market maps in the Piedmont Region – Youth unemployment rate per 100 inhabitants**



Source: Our processing

In the level sub-area, for all indicators, we can see that there are large portions of area that serve as *'pull'*, areas which stop the virtuous effects and other areas that are placed in an intermediate position. However the location of the administrative units become *'patchy'*-shaped. Given these results, it becomes interesting to identify areas in which the indicator, each time considered, localizes the distinctiveness of the area on the basis of the degree of interconnection and non-random agglomeration of local administrative spatially contiguous actors. The implementation of policies for territorial competitiveness shall immediately raise the issue of *governance*, that is to say the problem of finding a system capable of implementing and of developing effective policies. Since government levels normally do not coincide with those of territorial systems and objectives of different levels are not always consistent with each other, the system of government is likely to be not only ineffective but also inefficient.

## **6. Conclusions and future developments**

The innovation that the state of the art proposed in this project can therefore be identified: on the one hand, in the implementation of the analytical tools available to the *strategic management research* in the study of the relationship between externalities and competitive advantage, on the other hand, in the deepening of the ways in which empirical data can be useful to support decision-making activity and to develop strategies.

The usefulness of this project surpasses the limits of the cases studied in how it enables the recognition of the value added of a solution that completes the potential of the applicatives mentioned. In particular the integration resolves the problem of the successful and efficient

coordination of the date of filing, processing of the information and the diffusion of the results, shortfalls overcoming the objective of a single application. Therefore, they solve the typical problems of every construction project for an information system as a back up for implemented research observatory.

The strengthening lines on which one could work in the future are so far individualized in the:

- harmonisation of the dynamics of local development that might be otherwise constrained by the specific interests of different categories of operators. In fact, through the identification of complementary policies aimed to the exploitation of resources of different areas and especially through forms of collaboration between public and private sectors, it would be possible to enhance the value of the land to a greater extent;
- research of networks among actors in each area, with particular reference to comparable *sub*-areas so as to invest in creation and/or development of synergies among actors characterized by similar needs;
- highlighting of situations of vulnerability or risk, to recognize the *sub*-areas in which the strong presence of local units of mature business or absence of services for the firms could result in obstacles to the competitiveness of the system and therefore require targeted interventions for recovery and/or limitation of the social effects;
- knowledge of the degree of tertiarization of the local economy, to imagine the potential consequences of the placement in the individual area of local units with the attraction capacity of new production units or, conversely, the propensity to the delocalization/closure of the located production units;
- ability to build time series or to consider the evolution of a specific phenomenon through the maps. Another essential support for the planning is the monitoring and/or the evaluation of the actions taken;
- identification of possible forms of collaboration and organization in network, dictated by a certain increase in competition among territories.

The methodology exposed in this work gives way for further integration and improvements in order to have more cognitive tools to support a more effective and efficient management in achieving sustainable development of the territory each time identified.

## References

- Anselin L. (2004), *GeoDa<sup>TM</sup> 0.9.5-i Release Notes*, Center for Spatially Integrated Social Science, [<http://www.csiss.org/>].
- Baddeley A., Turner R. (2005) Spatstat: An R Package for Analyzing Spatial Point Patterns, *Journal of Statistical Software*, 12(6), 1-42 [<http://www.jstatsoft.org/>]
- Barile S. (2006) (edited by). *L'impresa come sistema. Contributi sull'approccio sistemico vitale*, Torino, Giappichelli.
- Bivand R. (2000) Using the R Statistical Data Analysis Language on GRASS 5.0 GIS Database Files, *Computers & Geosciences*, 26, 1043-1052.
- Bivand R., Neteler M. (2000a) Open Source Geocomputation: Using the R Data Analysis Language Integrated with GRASS GIS and PostgreSQL Data Base Systems, *Geocomputation 2000* [<http://reclus.nhh.no/gc00/gc009.htm>].
- Bivand R., Gebhardt A. (2000b) Implementing Functions for Spatial Statistical Analysis Using the R

- language, *Journal of Geographical Systems*, 2, 307-317
- Bivand R. (2003) Approaches to Classes for Spatial Data in R, *DSC 2003 Working Papers*, March 20-22, Vienna, Austria [<http://www.ci.tuwien.ac.at/Conferences/DSC-2003/>].
- Bayam E., Liebowitz J., Agresti W. (2005) Older Drivers and Accident: A meta Analysis and Data Mining Application on Traffic Accident Data, *Expert Systems with Applications*, 29, 598-629.
- Camuffo A, Grandinetti R. (2006) I distretti industriali come sistemi locali di innovazione, *Sinergie*, vol. 24, fasc. 69, 33-60.
- Caroli M.G. (2006). *Il marketing territoriale. Strategie per la competitività sostenibile del territorio*, Milano, FrancoAngeli.
- Cugno M. (2004) *'Emergency Map' La costruzione di un sistema computer assisted per l'analisi statistica dei livelli di insicurezza stradale e la realizzazione di mappe di rischio*, Tesi di Dottorato di ricerca in «Statistica Applicata alle Scienze Economiche e Sociali», Università degli Studi di Padova.
- Cugno M. (2008a). La dinamica spazio-temporale del commercio estero: mappe di internazionalizzazione. Comitato Territoriale UNICREDIT 'Alpi del Mare', Facoltà di Economia dell'Università di Torino, CRESAM – Centro Ricerche Economiche Sociali Aziendali e Manageriali – (a cura di) (2008). *Il Bilancio socio-economico d'area del Piemonte sud-occidentale. Volume I Province – Province di Alessandria, Asti e Cuneo*: 367-402.
- Cugno M. (2008b). Analisi della competitività. Comitato Territoriale UNICREDIT 'Alpi del Mare', Facoltà di Economia dell'Università di Torino, CRESAM – Centro Ricerche Economiche Sociali Aziendali e Manageriali – (a cura di) (2008). *Il Bilancio socio-economico d'area del Piemonte sud-occidentale. Volume II– Langhe e Monferrato. Analisi quali/quantitative per la governance del sistema impresa-territorio*: 91-132.
- Cugno M., Bresciani S. (2008), The time-space dynamics of foreign trade: internationalization maps. In: «11<sup>th</sup> Toulon-Verona Conference on Excellence in Services, 4-5 settembre 2008, II: 554-562.
- Dubini P., Di Biase E. (2006), Misurare la competitività: implicazioni per i policy maker, *Economia & Management*, SDA Bocconi, 6:13-35.
- Farrel G., Thirion S., Soto P. (2007), La competitività territoriale. Costruire una strategia di sviluppo territoriale alla luce dell'esperienza LEADER, *Innovazione in ambiente rurale*, quaderno n. 6, fasc. 1 - Osservatorio Europeo LEADER.
- Flahaut B. (2004) Impact of infrastructure and local environment on road unsafety Logistic model, *Accident Analysis & Prevention*, 36, 1055-1066.
- Garofoli G. (2003) *Impresa e territorio*, Bologna, Il Mulino.
- Geurts K., Thomas I., Wets G. (2005) Understanding Spatial Concentrations of Road Accidents Using Frequents Items Set, *Accident Analysis and Prevention*, 37, 787-799.
- Golinelli G.M. (2000). *L'approccio sistemico al governo dell'impresa*, Padova, CEDAM, vol. I e II.
- Golinelli C.M. (2002) (a cura di). *L'approccio sistemico al governo dell'impresa. La valorizzazione delle capacità rapporti intersistemici e rischio nell'azione di governo*, Padova, Cedam, III.
- Golinelli C.M. (2002). *Il territorio sistema vitale: verso un modello di analisi*, Torino, Giappichelli.
- Gómez-Rubio V., Ferrándiz J., López A. (2003) Detection Clusters of Diseases with R, *DSC 2003 Working Papers*, March 20-22, Vienna, Austria  
[<http://www.ci.tuwien.ac.at/Conferences/DSC-2003/>]
- Laurent T. A. Ruiz-Gazen, Thomas-Agnan C. (2006) GeoXp: an R package for interactive exploratory spatial data analysis. Illustration with a data set of schools in Midi Pyrénées. *2nd International R User Conference June 15-17, 2006* Wirtschaftsuniversität Wien, Austria [<http://w3.univ-tlse1.fr/GREMAQ/statistique> – October 2006]
- Martellato D. (2006), Competitività territoriale, *Note di Lavoro*, No. 20/NL/2006.
- Micozzi G. (2006), *Marketing della cultura e del territorio*, Milano, Franco Angeli.

- Openshaw S. (1987), The Aggregation Problem in the Statistical Analysis of Spatial Data, Atti del Convegno SIS: «*Informazione ed analisi statistica per aree regionali e sub-regionali*», Perugia.
- Piedmont region Cartographic collection: <http://www.regione.piemonte.it/repertorio>
- Porter M.E. (1990). *Il vantaggio competitivo delle nazioni*, Milano, Mondadori.
- postGIS, Manual [<http://www.postgis.org>].
- postGIS, <http://postgis.refractions.net/>
- R Development Core Team (2006) R: a Language and Environment for Statistical Computing, *R Foundation for Statistical Computing*, Vienna, Austria.
- Ribero P.J., Christensen O.F., Diggle P.J. (2003) Geostatistical software – geoR and geoRglm, *DSC 2003 Working Papers* [<http://www.ci.tuwien.ac.at/Conferences/DSC-2003/>]
- Ripley B.D. (2002) *Modern Applied Statistics with S*, Fourth Edition, Springer.
- Rullani E. (2004). *Economia della conoscenza. Creatività e valore nel capitalismo delle reti*, Roma, Carocci.
- Rullani E. (2006). Reti locali ed economia della conoscenza. Berni C. (a cura di), *Il territorio soggetto culturale*, Milano, FrancoAngeli, pp. 143-173.
- Rullani E. (2008). Impresa e territorio nella società della conoscenza. In «Centazzo R. Pasini F. (a cura di) *I sistemi produttivi locali. Evidenze empiriche e politiche di sviluppo*. Milano, FrancoAngeli.
- Salone C. (2005) *Politiche territoriali. Azione collettiva e dimensione territoriale dello sviluppo*, Torino, UTET.
- Sherman G.E., Sutton T., Blazek R., Luthman L. (2005) *Quantum GIS User Guide*, V. 0.7 'Semus' [<http://qgis.org/releases/userguide.pdf>].
- SINERGIE, (2007). *L'approccio sistemico al governo dell'impresa. Contributi per un dibattito*, **72**.
- Solymosi N., Harnos A., Reiczigel J., Speiser F. P. (2006) RpostGIS, an R library for using PostGIS spatial structures and functions. *2nd International R User Conference June 15-17, 2006* Wirtschaftsuniversität Wien, Austria.
- Tanimura S., Kuroiwa C., Mizota T. (2006) Proportional symbol maps, *Journal of Statistical Software*, 15(5).
- Tardivo G., Cugno M. (2007). The Tourism Industry in the Italian Provinces: Integrated Models Analyzing Performance and Competitiveness of the Business-Area System. *10<sup>th</sup> Toulon-Verona Conference on Excellence in Services, 3-4 September 2007*, pp. 554-562.
- Tardivo G. (2008a). Il territorio come sistema socio-economico. Comitato Territoriale UNICREDIT 'Alpi del Mare', Facoltà di Economia dell'Università di Torino, CRESAM – Centro Ricerche Economiche Sociali Aziendali e Manageriali – (a cura di) (2008). *Il Bilancio socio-economico d'area del Piemonte sud-occidentale. Volume I Province – Province di Alessandria, Asti e Cuneo*, pp. 25-44.
- Tardivo G., Bresciani S. Cugno M. (2008b). L'individuazione di cluster tecnologicamente avanzati in Unione Europea: strumenti a supporto della governance strategica. *XXXI Convegno AIDEA "Corporate Governance: governo, controllo e struttura finanziaria*, 16-17 ottobre 2008.
- Tardivo G., Cugno M., Viassone M. (2008c). Competitività e governance strategica: un'analisi empirica del 'Distretto dei vini delle Langhe, Roero e Monferrato'. *Sinergie*, **77**: 401-444.
- Tardivo G., Cugno M. (2011), *Il sistema Family Business. Un patrimonio da valorizzare*, Milano, FrancoAngeli.
- Viassone M. (2008), *La gestione del vantaggio competitivo territoriale in un contesto internazionale*, Torino, Giappichelli.

# **HOW TEACHERS AND STUDENTS MAY WORK TO BUILD A MORE SUSTAINABLE WORLD**

**Silvia Dessì**, University of Cagliari, e-mail: [silvia\\_dessi@alice.it](mailto:silvia_dessi@alice.it)

**Ernestina Giudici**, University of Cagliari, e-mail: [giudici@unica.it](mailto:giudici@unica.it)

**Bianca Ramos**, University of Cagliari, e-mail: [ramos.bianca@hotmail.it](mailto:ramos.bianca@hotmail.it)

## **Abstract**

Considering some recent scandals involving large organizations, the contributions of many scholars have been devoted to analyzing the phenomenon of corporate sustainability.

Few studies have discussed the responsibilities of teachers in upper-level schools to encourage students to become men and women who are able to manage organizations in a sustainable way.

An even smaller number of studies have stated that the above-mentioned scandals represent only the most sensational cases of unethical behavior.

In reality, there are many equally dangerous (if not more dangerous) unethical behaviors that are undertaken by numerous small and medium-sized firms that do not respect the environment: environment sustainability is increasingly becoming an ethical problem.

The unethical behavior of such a large number of small and medium-sized firms hinders the pursuit of sustainable development.

How can we, as teachers, encourage our students to be more attentive and more sensitive with respect to sustainability? Which methodological approach should we choose? To what extent are teachers able to actively involve students in becoming ethically oriented with respect to sustainable development?

**Keywords:** Sustainability challenge, SMEs, Brazil



# HOW TEACHERS AND STUDENTS MAY WORK TO BUILD A MORE SUSTAINABLE WORLD

To begin ...

*Treat the Earth well: it was not given to you by your parents, it was loaned to you by your children. We do not inherit the Earth from our Ancestors, we borrow it from our Children.*  
Native American Tribe unknown

As a consequence of the inappropriate behavior of human beings, humanity must solve an immense environmental problem that affects sustainable development. To save the world from environmental destruction, teachers and educational organizations must understand their crucial role in ensuring the survival of the planet and satisfying lives for future generations.

The problem discussed in this paper is central for education purposes and must quickly become central for individuals of all ages: too few individuals are aware of and are engaged in environmental protection. Protecting the environment should be a high priority for all people and should include their homes, schools, quarters, cities, forests, and rivers.

To emphasize the urgency of the large-scale project involving people all over the world and particularly the students who will be the men and the women of the future, it is necessary to recall some significant disasters in the recent past.

Sometimes the real cause of these problems is not immediately apparent, but undoubtedly, it is always possible to pinpoint unethical and unsustainable behavior. Many organizations have drafted a ranking of large disasters: these rankings differ because each of them has different emphases, including oil spills or nuclear, chemical, and other specific types of disasters. In the chart below, we cite some of these disasters with the purpose of urging people to remember these incidents and those who found the strength to react to them.

<b>Examples of large disasters that have caused environmental destruction</b>	
<b>Place and date</b>	<b>Disaster description</b>
Seveso, Italy July 10, 1976	At midday, an explosion occurred in a TCP reactor in the ICMESA chemical company in Seveso, Italy. A toxic cloud escaped into the atmosphere containing high concentrations of TCDD*, a highly toxic form of dioxin. This explosion involved an area of 6 kilometers and 11 countries; 37,000 people and 80,000 animals were killed.

Bhopal, India December 3, 1984	Bhopal is a city in Madhya Pradesh State, India. After midnight, a poisonous gas cloud escaped from the Union Carbide India Limited pesticide factory. This tragedy resulted in 4,000 deaths and 50,000 people infected with injuries such as blindness and kidney disease. One year later, approximately 20,000 people had died. The security measures of the plant at that time were not adequate.
Chernobyl, Ukraine April 26, 1986	This disaster resulted from a nuclear meltdown. The explosion was 400-fold larger than that of the Hiroshima bomb. Today, after approximately 30 years, the 30-kilometer area surrounding the nuclear plant is completely abandoned.
Great Pacific Garbage Patch Existence predicted in a 1988 paper	This area is a marine whirlpool that is able to attract waste and garbage. The size of this area is continuously increasing in the Pacific Ocean to the South of Japan and Hawaii. The majority of the litter is plastic, and no solution has yet been found.
Prince William Sound March 24, 1989	The American oil tanker Exxon Valdez collided with the Bligh Reef and caused a major oil leakage. This incident caused an oil spill of between 41,000 and 132,000 square meters and polluted 1,900 km of the coastline. The oil spill killed approximately 250,000 sea birds, 2,800 sea otters, and 250 bald eagles. Today, some oil deposits remain at the bottom of the ocean.
Gulf of Mexico oil spill April 20, 2011	This disaster is one of America's largest environmental disasters and is the largest oil slick in the Gulf of Mexico since 1979. The environmental disaster involved the Louisiana, Mississippi, Alabama and Florida coastlines. The Associated Press writes that this oil spill threatened to eclipse even the Exxon Valdez disaster and spread out of control with a faint sheen washing ashore along the Gulf Coast. In total, 120 million gallons of crude oil have spilled into the Gulf.

\* Tetrachlorodibenzo-*p*-dioxin

The disasters presented above provoke some questions: Do these examples merely represent fatalities, or do they reflect the responsibility of humans? Are these events classifiable as unsustainable or unethical?

In a few cases, external influences (as hurricane, tornado, etc.) may be the causes of disasters (e.g., the earthquake in Japan and the Fukushima nuclear plant), but the causes are generally connected with unethical behavior and unsustainable orientation.

The purpose of this paper is emphasize the unique role that teachers and students may play in promoting ethics and sustainability as bases for encouraging a better quality of life to current and future generations.

## The sustainability challenge

*All plants are our brothers and sisters. They talk to us and if we listen, we can hear them.*  
Arapaho

Since the Brundtland Commission work “Our Common Future” (1987) defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987: 8), many contributions have been proposed, and each contribution addressed a different significant but partial aspect. The current consensus considers sustainability as being founded on three pillars: economic, social, and environmental (Rondinelli & Berry, 2000; Bansal, 2005). The *economic* pillar reminds people in the western world that a model is necessary to ensure the fair distribution and efficient allocation of our resources. It is also essential to remember that economic growth must maintain a healthy balance with the ecosystem. *Social* sustainability indicates that all people are global citizens who must never ignore social disruption that jeopardizes the well-being of both people and the environment. Possible initiatives include social justice, all activities that promote social equity, and the reduction of poverty.

The *environmental* pillar offers evidence that natural resources are not unlimited and that the planet must be protected. The initiatives that relate to this pillar are as follows: the reduction of fossil fuel consumption and emissions, sustainable agriculture and fishing, renewable energy, tree planting, reducing deforestation, recycling, and organic farming. In addition, the three pillars are interconnected (Scaltegger & Synnestvedt, 2002; Townsend, 2008).

Afterward the Brundtland Report, the use of the word “sustainability” has progressively increased. However, if the word sustainability is well known all over the world, are we certain that the specific implication for the behavior of each person is adequately understood? Is each citizen conscious that his/her small, daily inappropriate behavior (e.g., failing to reduce water waste, forgetting to turn off computers) also contributes to such environmental problems as world pollution and climate change? These unsustainable behaviors occur more frequently than people realize and, on the whole, are as dangerous – if not more so – than the large-scale disasters discussed previously.

Thus, “Sustainability, as we conceive of it, is a dynamic state that has the capacity to endure; it is a broad systems-level concept that transcends entity and national boundaries to embrace notions of equity, equality, and futurity in relation, but not limited to economic, social, and environmental conditions that support life for all. It is simultaneously global and local in orientation” (Collins & Kearins, 2010).

Fortunately, the importance of and demand for green skills or skills for sustainability among our current and future workforce and within our communities is growing, albeit slowly.

The expression “skills for sustainability” is adopted to specify that practical, technical and professional skills must be combined with the knowledge, values and attitudes required to address the challenges of social, economic and environmental sustainability.

The adoption and diffusion of “skills for sustainability” is not easy because it requires a significant change in human being behavior in many fields of activities. For example, to be sustainability-oriented, firms must shift from a “corporation orientation” to a “human resource orientation” in which these firms endeavor to maintain their goals to achieve high gains while considering human beings as the center of their efforts.

### **Why is it necessary to consider small and medium-sized enterprises?**

*Take only what you need and leave the land as you found it.  
Arapaho*

In an immediate answer to the question posed in the title, it may be sufficient to note that small and medium-sized enterprises (SMEs) are the most numerous types of firms throughout the economies of the world.

Specifically, SMEs represent 99% of businesses in the UK (Revell & Blackburn, 2007), 99.7% of businesses in Australia (ABS, 2007), and 99% of businesses in the European Union (Eurostat, Europa, policy areas, [www.europa.eu](http://www.europa.eu)).

However, are these numbers sufficient evidence to suggest that we should consider SMEs as the most significant sources of pollution? Recent studies have offered evidence that SMEs are a source of job creation and contribute both innovation and competition to the market, but it is estimated that SMEs account for approximately 60% of carbon dioxide emissions (Marshall Report, 1998; Revell and Blackburn, 2007) and 70% of all pollution globally (Stokes et al., 2007). Thus, significant efforts to address ethical and sustainable behavior should emphasize these types of enterprises. How can we encourage SMEs to implement environmental improvements?

The most significant problem is that many SME owner-managers feel that their effects on the environment are minimal and often see no reason to engage in environmental improvement. They emphasize their small dimensions and their low contributions to pollution or other behaviors that may cause disasters. However, these owner-managers do not realize that many

small or medium-sized firms contribute to damaging for the environment to a greater degree than a few large companies. SMEs are spread throughout regions, and their incorrect behaviors influence large areas.

In addition, SMEs do not always adopt technologies and practices that reduce the level of negative effects on the environment, do not often replace old equipment with energy-saving equipment, and do not always practice recycling or similar behaviors. In apparent contradiction with these observations regarding common SME behavior, research has shown that SME owner-managers desire to engage in environmental improvement (Tilley, 1999). The obstacle that SME owner-managers cite is the cost connected with the adoption of sustainable behavior. If we consider the short-term costs, this fear is justified, but SME owner-managers must understand that sustainable behavior may present opportunities and competitive advantages in the long term. This concept is not easy to understand because it requires a significant change in the mentality of management regarding new perspectives that are not always obvious. It may be useful to remember that “it is not the strongest of species that survives, nor the most intelligent but the most responsive to change” (Darwin, 1859).

Specific efforts may be undertaken by SMEs, but these endeavors may also be useful for their employees. We must engage to seek an enduring orientation toward ethic and sustainable behavior. We have only one means of reaching this goal: to prepare students (particularly business students) to be the creators of a future ethic and sustainable world.

### **How can teachers and students work together to build sustainability?**

Education is the irreplaceable base of numerous human activities and one of the most important resources (Schumacher, 1973) with which to create socio-economic progress and development.

For instance, the Brundtland Report (WCED, 1987) argued that teachers have a crucial role in helping to produce the social changes necessary to promote ethics and sustainability. If teachers are able to assist students in developing a passion for ethics and sustainability and skills to apply this passion to their daily lives, students will be responsible citizens, and general well-being may increase.

Teachers face difficult tasks because educators must find answers to two significant, specific characteristics of the present era: the need to change and to adapt oneself to the numerous and dynamic aspects that assume a dimension that it is impossible to ignore (e.g., technology, globalization and localization phenomena) and the need to change to respect the needs of a more sustainable world. It is necessary to find an appropriate way to adapt to new

technologies while also respecting the environment in an ethical way. Meeting this challenge requires that “as teachers, we possess a large tool-kit of face-to-face instruction methods, and advances in computer and communications technologies have expanded our kit to include many distance-learning tools as well, leaving us blurry-eyed by the myriad possibilities” (Marshall, 2010: 484).

Unfortunately, the education system has been given answers at a rate that does not account for the urgency that the characteristics of the new era demand. In fact, only since 2000 has it been possible to observe an increased number of academic studies examining sustainable problems and the introduction of sustainable courses in management schools. In reality, many schools offer isolated initiatives and single courses rather than a complete program of activity (as in Brazil, as discussed in a subsequent section), ignoring that a synergetic result emerges due to the collaboration and interdependence of many courses that adopt sustainability as a basic reference.

Beginning in the late 2000s, some annual meetings were organized to discuss sustainability topics. Currently, approximately “200 academic applied-sustainability centers have been developed around the world, many of them affiliated with business schools” (Starik, Rands, Marcus, & Clark, 2010: 378). This attention provided a strong stimulus for teachers, students, and publishing houses to increasingly emphasize sustainability problems and to enhance both the quality and quantity of contributions.

However, we observe that only some business/management fields immediately understood the meaning of this challenge, but the number of fields involved has been slowly increasing.

The inclusion of sustainability-related subjects in the curricula of some business programs (but not in program as a whole) has not been as consistent as the global implications of the phenomenon necessitate (Walck, 2009). One of the discussions pertaining to the inclusion of sustainability relates to whether this topic “should be taught as stand-alone elective subjects or whether it should be integrated into core courses” (Audebrand, 2010). In the first case, there is a risk that sustainability would be taught separately from business concerns (Carrithers & Peterson, 2006); in the second situation, “management educators would have to challenge students’ worldviews and encourage them to explicitly analyze their assumptions about business, the environment, and society” (Audebrand, 2010).

Sustainability education is actually affected by limitations that contribute to slowing its wide adoption in schools and university courses (Giudici, Varriale, Floris, Dessì, 2011 in press). This may appear to conflict with the efforts of intergovernmental bodies, such as UNESCO (2005a; 2005b), that have embraced the rhetoric of sustainability education to produce

sustainability changes. This conflict may have arisen because “advocacy, particularly by intergovernmental agencies and governments of the developed world, is one thing, but effectively translating theoretical underpinnings into practice is another” (Benn & Martin, 2010).

There is a significant problem related to the widespread hypothesis that sustainability must be taught in a specific discipline or course; on the contrary, each discipline should incorporate the philosophy of sustainability, and together, these disciplines can contribute to enabling students to understand the general concept of sustainability. Thus, “the Age of Sustainability calls not only for a transformation of our academy’s governance models, it also requires us to examine and transform how and what we teach” (Marshall, 2010: 483).

Teachers, more than other people, must shift from an anthropocentric point of view to an ecocentric point of view. That is, the mentality of teachers must transition from the idea that humans are of primary concern and that nonhuman nature exists to serve human needs to the idea that nonhuman nature is inherently valuable, beautiful, and even sacred. Thus, nonhuman nature is viewed as the fount of all human life, and humans, as a part of nature, are emotionally connected to it (Naess, 2003).

According to Shrivastava, “cognitive or intellectual understanding is necessary for changing human behavior, but they are not sufficient. Behavior change requires, among other factors, emotional engagement and passionate commitment. Education for sustainability needs to seriously contend with this basic human fact. Cognitive understanding alone is not sufficient; managers and students need holistic, physical and emotional engagement with sustainability issues” (2010: 445).

Consequently, teachers may be conscious that encouraging students to adopt a sustainable orientation requires that their work involves passion in the use of analytical skills, physical stamina, and emotions to accomplish and exceed goals. However, “acquiring these skills in an integrated manner requires students to think in new ways and work in new ways. It requires combining analytical, physical, and spiritual concepts and practices into a holistic learning experience” (Shrivastava, 2010: 446).

### **What about in Brazil?**

As discussed previously, preparing students to become ethical and sustainability-oriented managers is a complex task. In addition, there exists the significant problem that business schools represent only one step (if not the final step) in the education process and is certainly insufficient for the development of an awareness of sustainability as an aspect that increasingly affects the survival of firms.

The Brazilian case offers some interesting suggestions. In Brazil, the task of increasing the sustainability awareness of students – as future managers – begins in primary schools in the form of compulsory courses and continues at the other education levels as optional courses. This project involves students, educators, families and citizens at large.

To better understand the Brazilian philosophy, we interviewed Mrs. Eloisa Corrente, the environmental education director in Joinville.

First, Mrs. Corrente underlined that the Govern project is based on the awareness that *the role of teachers is to train future managers to be able to manage firms in a way that preserves natural resources – that is, to become sustainability-oriented managers.*

Specifically, the Brazilian government has undertaken efforts to incorporate environmental education into their formal teaching structure. The General Coordination of the Environment Education is inserted into the Global Education Secretariat, Human Rights and Citizenship of the Ministry of Education - Department of Continuing Education, Literacy and Diversity. The above-mentioned structures in collaboration with the Environment Education Department have created the managerial body of the Environmental Education National Policy, ruled by specific law or decree.<sup>1</sup>

Mrs. Corrente highlights that *by working with educational systems and higher education schools, the Ministry of Education (with the aforementioned structures) supports environmental education projects that are able to strengthen the national environmental education. The challenge is the comprehension of the qualitative effect of integrating environmental education in basic education.*

The integration of environmental and sustainable education in the basic educational system has the potential to generate a virtuous circle of knowledge and to constitute the prerequisite for increasing environment respect and developing ethical behavior with respect to sustainability, beginning with schools and local communities.

The Brazilian system of environmental and sustainability education commenced in 1999 and is based on the activities shown in Chart 1.

Interestingly, the projected activities are cross-sectional; that is, they involve all disciplines and do not create a specific discipline. These activities enable students to be better stimulated because they can acquire basic knowledge of how to respect the environment and to adopt sustainable behaviors as they manifest in real life. Thus, the lack of a specific discipline is a necessary risk to achieve the goal of assisting students in understanding that the environmen-

---

<sup>1</sup> Law n. 9.795/99 – [http://www.planalto.gov.br/ccivil\\_03/Leis/L9795.htm](http://www.planalto.gov.br/ccivil_03/Leis/L9795.htm) and decree [http://www.planalto.gov.br/ccivil\\_03/decreto/2002/d4281.htm](http://www.planalto.gov.br/ccivil_03/decreto/2002/d4281.htm)



tal issue is a complex problem that is shared in different topics of learning and mixed with social, technological, and cultural activities.

The Ministry of Education project involves students, teachers and citizens at large. Teachers are intended to undertake specific activities related to environmental education. The purpose is to inspire teachers to develop a critical interpretation of the reality of diversity and environment characteristics. By examining the world around them, teachers may transfer their own emotions related to the environment to their students.

**Chart 1 - The Brazilian system of environmental and sustainability education**



*Source: Ministry of Education*

The Ministry suggests that young people should not be involved in compulsory activities but that teachers can assist these students in stimulating and deepening the socio-environmental debate with a special focus on public policies regarding sustainability. This distance-learning concept aims to involve all young Brazilians in discussions of five basic topics: environmental education; organizational empowerment, communication, entrepreneurship, and political involvement.

In short, the development of an understanding of environmental and sustainability themes and the complex social significance requires us to change our lens, examine the partial views, and adopt ethical and supportive values.

The Brazilian Ministry of Education aims to create a new generation with a mentality that is concerned with environmental preservation and that is likely to adopt sustainable behaviors. This goal represents one of the most significant challenges of this era, and the Brazilian Ministry of Education may be successful because its project is based on a system approach (Bertalanffy, 1968; Giudici, 1997). In fact, the project involves teachers, students (in different ways in terms of age), and citizens at large: the project is likely to be successful because each of these groups may cooperate with one another and collaborate to attain value that is greater than the simple sum of the results of the behavior of each group.

### **Final remarks and new research perspectives**

Based on the analysis previously conducted, the creation of a more sustainable world requires an overall change that involves teachers, students, and society at large. A new teaching approach that integrates cognitive and emotional learning is necessary. However, a new type of student may emerge: having learned to evaluate the moral consequences of their decisions and actions, these students will be able to think and work in a sustainable way and consequently become ethical citizens and managers.

The Brazilian case represents an interesting proposal with which to address this new educational requirement. By involving the environment and society as a whole, this proposal increases the spread of the new sustainable mentality and stimulates the adoption of sustainable behavior in small and medium-sized enterprises.

Based on an analysis (albeit not a detailed analysis) of the websites of the Italian Ministry of Education and Ministry of Environment, the observation emerges that the Italian interventions devoted to promoting sustainable behavior are sporadic and unplanned and that the only operating leverage of these projects frequently results in the organization of contests (chiefly involving primary schools) related to sustainability and environmentally friendly behaviors. These competitions certainly assist in increasing awareness about these issues, but they do not encourage a holistic approach that is able to consider and transform the learning process as a whole.

Thus, further research will be devoted to investigating the ways in which different governments are facing the challenges associated with new types of educational systems by conducting a more detailed analysis of the Italian project and by considering the interventions adopted by other countries. Therefore, future research aims to analyze whether the interventions adopted by governments are able to create the social change necessary to encourage students to become ethical and sustainable citizens, managers and entrepreneurs and to provide

the perspective required to change the behavior of small and medium-sized enterprises.

## References

- ABS 2007. Counts of Australian businesses, including entries and exits, Catalogue N. 8165.0, **Australian Bureau of Statistics**, Canberra.
- Audebrand, L. K. 2010. Sustainability in strategic management education: The quest for new roots metaphor. **Academy of Management Learning & Education**, 9(3): 413-428.
- Bansal, P. 2005. Evolving sustainably: A longitudinal study of corporate sustainable development. **Strategic Management Journal**, 26(3): 197-218.
- Benn, S., & Martin, A. 2010. Learning and change for sustainability reconsidered: A role for boundary objects, **Academy of Management Learning & Education**, 9(3): 397-412.
- Bertalanffy, L. V. 1968. **General system theory: Foundations, development, application**. Revised edition, 2003. New York: Braziller.
- Carrithers, D. F., & Peterson, D. 2006. Conflicting views of market and economic justice: Implications for student learning. **Journal of Business Ethics**, 69(4): 373-387.
- Collins, E. M., & Kearins, K. 2010. Delivering on sustainability's global and local orientation. **Academy of Management Learning & Education**, 9(3): 499-506.
- Darwin, C. 1859. **On the origin of species by means of natural selection, or the preservation of favoured races in the struggle of life**. London: John Murray.
- Giudici, E. 1997. **I mutamenti nelle relazioni impresa-ambiente**. Milano: Giuffrè.
- Giudici, E., Varriale, L., Floris, M., Dessì, S. 2011 (in press 19 sept). **Teaching business students to be passionate about ethical sustainable development**, in Wankel, C. & Stachowicz-Stanusch, A. 2011 (in press). **Management education for integrity: Ethically educating tomorrow's business leaders**. IAP.
- Marshall, M., Vaiman, V., Napier, N., Taylor, S., Halsberger, A., & Andersen, T. 2010. The end of a "period": Sustainability and the questioning attitude. **Academy of Management Learning & Education**, 9(3): 477-487.
- Naess, A. 2003. **Ecology, community and lifestyle: Outline of an ecosophy**. London: Cambridge University Press.
- Parker, C. M., Redmond J. & Simpson M. 2009. A review of interventions to encourage SMEs to make environmental improvements. **Environment and Planning C: Government and Policy**, 27(2): 279-301.
- Rewell, A. & Blackburn, R. A. 2007. The business case for sustainability? An examination of small firms in the UK's construction and restaurant sectors. **Business Strategy and the Environment**, 16(6): 404-420.
- Rondinelli, D. A., & Berry, M. A. 2000. Environmental citizenship in multinational corpora-

- tions: Social responsibility and sustainable development. **European Management Journal**, 18(1): 70-85.
- Scaltegger, S., & Synnestvedt, T. 2002. The link between 'green' and economic success: Environmental management as the crucial trigger between environmental and economic performance. **Journal of Environmental Management**, 65: 339-346.
- Shrivastava, P. 2010. Pedagogy of passion for sustainability. **Academy of Management Learning & Education**, 9(3): 443-455.
- Schumacher, F. (1973). **Small is Beautiful: Economics as if People Really Mattered**. Abacus.
- Starik, M., Rands, G., Marcus, A. A., & Clark, T. S. 2010. In search of sustainability in Management education. **Academy of Management Learning & Education**, 9(3): 377-383.
- Stokes, D., Chen, H. & Rewell, A. 2007. Small businesses and the environment: turning over a new leaf?. **Report, Workspace Group PLC**, London.
- Tilley, F. 1999. The gap between the environmental attitudes and the environmental behaviour of small firms. **Business Strategy and the Environment**. 8(4): 238-248.
- Townsend, C. R. 2008. **Ecological applications: Towards a sustainable world**. Oxford: Blackwell.
- UNESCO 2005a. Report by the Director-General on the United Nations. **Decade of education for sustainable development: International implementation scheme and UNESCO's contribution to the implementation of the decade**, at <http://unesdoc.unesco.org>
- UNESCO 2005b. **Contributing to a more sustainable future: Quality education, life skills and education for sustainable development**, at <http://unesdoc.unesco.org>
- Walck, C. 2009. Integrating sustainability into management education. **Journal of management Education**, 33(3): 384-390.
- World Commission on Environment and Development (WCED) 1987. **Our common future**. Oxford: Oxford University Press.

# **VIRTUAL UNIVERSITY CORPORATION : KEY STRATEGY IN CREATING COMPETITIVE ADVANTAGE IN HIGHER EDUCATION IN THIRD WORLD COUNTRIES**

**Milan Z. Dimitrijevic**, Educons University, Faculty of Engineering management, Belgrade, Serbia, e-mail: [milan.dimitrijevic@fim.rs](mailto:milan.dimitrijevic@fim.rs)

In the relentless struggle for survival, profit maximization and minimization of costs, university owners seek to maintain a balance between the enormous fluctuations in the market of higher education and the environment in which they operate. Private universities offer in third world countries is increasing, "qualities" are almost equal, but the final product brings us back to reality, and it's graduate who has no practical knowledge and experience for the position of secretary in a small company. Analysis of way of work of private universities, collecting data from employers of all sizes and also collecting data from students, I wanted to find strategy that could be useful for everybody, for university, students and for employers. Research has shown that establishing VUC model, University has the ability to produce highly educated and qualified staff, rise the level of quality of study and significantly become more competitive in the market. Final product of VUC model, will be a student who has quality practical knowledge to answer efficiently on challenges of the market and demands of employers. VUC model creates new dimension of managing changes, as well as a material for upgrading existing theory of all disciplines of management.

## **Introduction**

General overview of the case

In third world countries it is a big enough challenge to live, and a special challenge is to be engaged in private business. Large number of obstacles which will be listed and explained later in the paper, not only make situation more difficult, they are disabling proper formulation and managing of private business. One of the countries that deserves the name of a third world country, which in addition to many wars, political instability and poor public image, is also characterized by poor economic and generally poor living conditions is Serbia. As an unavoidable crossroad on the way to southeastern Europe and the Middle East, Serbia has an ideal strategic position to be a leader in the region for several industries. Industry which is on the rise in last decade, but now slowly falls into a major crisis is a industry of private higher education. Belgrade as the capital, boasts a growing number of private universities, who according to programs look like their rivals, the world's leading universities such as Harvard,

Cambridge and Oxford. The best indicator that represent one company is the quality of finished product , as in the case of university ,that is a graduate student. As the first generations of graduates of the private universities started to build their career, they were met with difficulties in adapting to the business climate, or rather say to the practice both in domestic and foreign companies in which they were given the chance to demonstrate their acquired knowledge and skills. Employers realized in a short time that the new labor force has a great difficulty in adapting, because they are not familiar with the most basic administrative matters and nearly everything they see or hear sounds unknown. All this for result has a dissatisfaction of the employer, dissatisfaction of the student and the bad reputation for the university from which student came from. After three years of research and summarizing the results, I attempted to formulate and implement a strategy that is focused on providing practical knowledge to students, in order to be able efficiently to respond to the demands of employers. I wanted to create a unique model – a strategy for the business and technical colleges, which could be implemented at any university and in any country of the third world countries, but also in developed countries. After a detailed analysis of summarized data research and taking consideration of all relevant facts about the current economic – political situation in Serbia, in the region and in developed countries, I have formulated a strategy that I call *Virtual University Corporation* ( further in the paper VUC ) , which represents a unique model and strategy pointed to the practical training of students for the challenges and demands of both, market and employers. In Serbia , the first institution of higher education that realized the benefits and importance of VUC model, while it was also used as a test of practical application of VUC model is the Faculty of Engineering Management from Belgrade. By analyzing strategy of formulation and implementation of VUC model on this high school institution, on the best way will be presented why is VUC model key strategy in creating competitive advantage in higher education in third world countries.

## **Business environment**

It is necessary to make a review of the business environment, which is the best way to present opportunities and general conditions for starting private business and especially business of private higher education in Serbia. Analysis of business environment focuses on two periods as follows : 1. Post communistic – socialistic period from 1990 to 2000 and 2. Post socialistic period of democratic transition from 2000 to today. Special attention was given to analysis of general economic and political conditions with special reference to living conditions in both periods and the psychological effect which is produced by the concept of private higher education.

### **1. Post communistic – socialistic period from 1990 to 2000**

In early 90's departure of the communism and the arrival of socialism as a philosophy of governance of Serbia, seems it did not change the general picture of the status of higher education. State universities were respected institutions, which produced a professional staff, known far beyond the borders of Serbia. The people who run the country and were on the top positions on the most developed state companies, were educated at state universities, as well as their parents before them. The period of production of quality staff by state universities is related to the period from 1970 to 1990, but after that, general economic, political and living conditions have significantly affected on the quality of staff. Period of hyperinflation from 1992 to 1994,

led to the fact that university professors, researchers and scientists, were working on the street markets, selling personal items and furniture to feed the family. This period is also known as the period of isolation, because Serbia spent almost a decade in sanctions, very unstable economic situation and the socialist regime, which caused the isolation and generally unfavorable conditions for starting private business. It should be noted that in this period Serbia participated in two wars, which has hampered economic development and further scientific development. The influence of communism was still reigned among people who were on positions to decide, while capitalism as the order was a taboo theme and something that is unattainable. When all these circumstances are taken into account, the conditions for opening private universities were extremely unfavorable, especially because the people of Serbia is poor and the education has always been free. It should be noted the fact that is related to the legacy of the communistic philosophy, which principles are generally against private business and extreme enrichment of individuals. When you assemble a number of factors such as the extremely difficult living conditions, free education and the legacy of the communistic philosophy of thinking, which still lasts in certain sectors of economy, it is clear that the individual or team of people needed a miracle in order to begin the process of opening private university and especially to create awareness in nation that it is something good and that it is one of the main causes of strong economy and quality of life conditions in Western countries. Despite these adverse circumstances, two private universities were established in the late 80's and early 90's, who despite the many difficulties, managed to take a place in the market of higher education in which still primacy had state universities.

## 2. Post socialistic period - democratic transition from 2000 to today

After the departure of socialists from power in late 2000 and the arrival of the democrats, began a period of democratic transition that still lasts and which contributed that private higher education become more popular and more present. Most private universities were established after 2000, but this period is also full of obstacles that have greatly hampered and hinder the establishment of private universities even today. New democratic government inherited many problems from the previous government, implementation of modern European law is very slow, and overall living conditions have not changed much, while statistics show that they are even worse. According to many surveys, Serbia according to all indicators occupies last place in the region or the Balkans. It must be noted that conditions in Serbia still current, must be analyzed carefully before starting a new business, especially business of higher education.

### General economic, political and living conditions in Serbia 2010 – 2011

- Unstable political situation ( the period of democratic transition, the implementation of European legislation, the process for getting status of candidate, a very strong opposition, inadequate ruling coalition which has further increased costs in the budget );
- Turbulent and unfavorable economic situation ( failed privatization, crisis and the lack of industrial production, lack of foreign investment, due to the lack of laws, corruption and big bureaucracy );
- Of the 7 million inhabitants, 700 thousand live below the poverty line, 1.7 million employees, 1.7 million retirees, about one million unemployed, of which about 700 thousand are on the labor market and where two thirds of applicants have only a high school education;



- Unemployment rate 20 % ;
- A high level of corruption in all aspects of social action, Serbia is on 78 place, index of corruption 3.5 ( range of index from 1.1 – Somalia to 9.3 – Denmark, New Zealand, Singapore, note : lower index means higher corruption ) ;
- Time needed for obtaining a work permission, universities and faculties waits for 2 or more years ;
- Failed privatization of state companies, every fourth privatization is canceled ;
- Only 0.35% of GDP is set aside for investment in science ;
- Serbia is on the 4 place by brain drain ( departure of scientific elite ) ;
- A negative birth rate, number of children attending primary schools and colleges is getting smaller ;
- In Serbia every year the population decreases by an average of 30,000 to 35,000 people ;
- GDP – based on purchasing power is 37% of the European average for 2010 ;
- The average salary in Serbia is 320 euro for those who work, or for those who receive the salary ;
- The average pension in Serbia is 220 euro ;
- The current foreign debt is 12,7 billion doll. ( march 2011 ), the share of GDP 39,8% ;
- Inflation rate 14.1 % ( March 2011 ) ;
- Direct foreign investment 0.86 billion euro ( 2010 ) ;
- The budget deficit for the year 2010 – 1.07 billion euro ( 6.62 billion euro in revenues, 7.69 billion euro in expenses.

Sources : *Press dnevne novine*, 20 april 2011, [stat.gov.rs](http://stat.gov.rs) (2011) [www.stat.gov.rs](http://www.stat.gov.rs) , [transparency.org](http://transparency.org) (2010) [www.transparency.org](http://www.transparency.org) and own estimates.

What specifically should be noted is the campaign of Serbian government directed at return of the eminent experts in Serbia ( Serbian scientific Diaspora has about 10,000 experts ) to use their knowledge, skills and networks in order to help economic recovery and to be kind of Serbian ambassadors in world. Serbian government campaign has encountered many obstacles and had very poor results. Simple, strategy to attract scientific Diaspora of Serbia is fully formulated incorrectly, which further has produced even worse implementation. Precisely these and similar wrong actions further create a bad image and reputation for higher education and for the general opportunities for business development in Serbia. The idea of the return of Serbian experts in their homeland to help the recovery and to create better position of Serbia in the world, deserves praise and attention, but the incompetence of the campaign managers and those responsible for formulating strategy has led to that great idea becomes advertisement for incapacity, incompetence and an example how some things should not be done. Despite a bad campaign, very important for this work is the fact that a certain number of scientists and experts responded to the invitation of the Serbian government and decided to pursue their career in Serbia.

### **Creating strategy of competitive advantage**

Guided by the idea of active participation and giving a personal contribution in establishing a modern and developed Serbia, especially in sector of higher education, an eminent expert, doctor of science from the University of Cambridge, professor Vladimir Tomasevic returned to Serbia

and wanted with his knowledge, experience and skills to bring together an elite Serbian team of experts from Diaspora and establish a faculty that will produce the same quality of cadre equals to the cadre of prestigious universities around the world. Full of knowledge, experience and best intentions, an elite team of experts led by Dr. Vladimir Tomasevic, decided to establish a Faculty of Engineering Management ( further in paper FIM ), where their knowledge, skills and experience gained at prestigious universities, in an efficient way could conveyed to future students. Establishment of high school institution is not easy in any country, but due to very unfavorable economic – political conditions and general living conditions in Serbia, it is seemingly impossible mission , comparing with the countries in the region and especially countries in Western Europe.

One idea follow the other and each in its own way was good and gave a contribution not only to the process of establishing FIM, but also for the marketing campaign which need to present on efficient way how the FIM is different from the others and why student should decide to choose this college. It should be noted that an elite team of professionals who are actively involved in establishing the FIM , came from the following universities : Harvard, Cambridge, Oxford, Yale, Sorbonne, Stanford, Cornel, London. Nor state or private university has a team of experts like this, and that fact was the fundament of marketing campaign and something that should be presented as a strategy of competitive advantage. “ We represent a competitive advantage, there are no such an experts in high school institutions in Serbia and elsewhere in the region “, said one expert from the elite team, so that highlighted the foundation’s of future differentiation strategy and strategy of competitive advantage. By analyzing competitions program and marketing campaigns, it was spotted a big difference in FIM, as in the program, staff and also in the innovative tactics that complement the strategy of conquering the market. After several months of intense marketing campaign, response and feedback of students were positive and for the start satisfying. It is necessary to be noted that the goal of the FIM’s promotion campaign was focused on building awareness of the existence of a new high school institution in the market o higher education in Serbia, different from anything seen so far and something that has long been expected. The second step as a product of quality campaign was the possibility to start building strategy of competitive advantage. It is necessary to make a brief review on the structure of the general strategy of building competitive advantage, in particular on the structure and strategy of VUC model, its advantages, defects and obstacles that the FIM ‘s department of management faced with.

### **The structure of competitive advantage strategy**

The general strategy of building competitive advantage of FIM is based on the following elements :

- high level of quality and expertise of employees;
- innovative strategies for the theoretical part of teaching;
- innovative strategy for practical training of students- VUC model;
- international cooperation with prestigious institutions;
- guest lecturers from prestigious universities;
- international recognition of diplomas;

- recommendations for a student from teacher - mentor from prestigious university ;
- corporate social responsibility - social and economic contribution to the Serbia and to the region through the education of students.

Source : fim.rs (2011) [www.fim.rs](http://www.fim.rs) .

### **VUC – key strategy in creating competitive advantage or not ?**

VUC model is the product of three –year research aimed at finding efficient strategy for vocational education of students during their studies. In the last two decades the process of traditional practice in Serbian companies has lost its significance and impressions and gained knowledge of students on the best way represents that fact. As a very challenging model to implement, the VUC model as a key strategy to create competitive advantage, at the beginning encountered on many obstacles and doubts by an elite team of FIM, but fortunately, has been welcomed by the main man, Dr. Vladimir Tomasevic. It has been said, if the quality presentation convince the rest of the team that the VUC model is the strongest link in our chain strategy, in that case, the VUC model will be presented as a primary strategy with which we want to build competitive advantage. VUC model was not only presented to an elite team of FIM, it was also presented to all interested students and their parents, especially because of the programs structure and responsibilities of the future students by participating in VUC program. Before the official presentation, still unpublished scientific research was submitted for the analysis to an elite team in order to be convinced about the role and importance of VUC model. Beside that, I had intention to hold a detailed presentation of my scientific research for the elite team, to give them all the details well presented and explained. Research on VUC model was never published, because it was necessary for the research results to pass an implementation process, as on the FIM, and in such a way to present the role and significance of VUC model and especially opportunities to implement such a model at university level. It should be noted that my research is related to the justification of the VUC model implementation and the strategy how I need to formulate the program, but it was not referring to the problems and obstacles that await VUC model by the owner and the elite team who should accept it. Therefore it is particularly significant the approval process of VUC model by an elite team, which best presents similar if not the same obstacles that this model will meet on other universities and in other countries.

### **Concept of VUC model**

VUC presents a model of corporation that operates like any other corporation, except that the VUC uses virtual money. It is necessary to have special approach in the formulation and implementation of virtual corporation on university. In essence, VUC model presents a corporation which lives as long as university lives and acts as a training center for students, creates awareness among students about need to exploit their potential to the maximum and to be a team player. Some of the most important characteristics of the VUC model :

- VUC model can be implemented by professors and persons employed at the university who have years of experience and strong background in dealing with private business ;

- VUC model lasts during all time of studies ,especially in that period the results of students efforts counts, which also affects the overall success of the student ;
- VUC model is implemented in such a way that presents a true picture of real corporation and business conditions ;
- Students acquire practical knowledge and experience in various fields that are not their specialty ;
- The student becomes familiar with the law and monitors all changes to the law during the study, primarily because of ongoing projects that he need to implement under the law and also after graduation he will stayed informed and will provide favorable position with the employer ;
- The students becomes familiar with the latest software for business, e-banking, accounting, depending on the faculty he attend, but will be familiar with other software, their implementation and efficiency ;
- Students have the opportunity to work on various positions and to become familiar with the duties and responsibilities required by that position ;
- A student who is employed in a particular department of VUC is conditioned by the cooperation with other departments, both for the successful implementation of the project and the acquisition of new knowledge and encouragement of team work ;
- Board of Director of VUC ( professors ), are working with external corporations and participate on the same projects – tenders ( virtual ), in order to create more realistic picture and to build a competitive spirit ;
- The student after finishing his studies, receives a VUC certificate, with detailed transcripts and credits related to his positions and success on those positions in VUC. The certificate is signed by eminent experts and businessmen, which further confirms the quality of gained knowledge and experience ;
- The student after finishing his studies is not applying for his first working relationship, he continues to work and he work at the new job .

As previously mentioned features met with divided opinions of an elite team, it was necessary to explain how I came to the knowledge that the VUC model is really necessary and that will eventually be a key strategy in creating competitive advantage. Proven hypotheses from scientific research as well as an explanation of each individual, satisfied and convinced an elite team, that VUC model deserves to be a part of general strategy and something that will be implemented as crucial part of marketing campaign. Proven hypothesis presented to the elite team :

Hypothesis 1. The traditional way of practice in companies is unproductive, as for student and the employer , also for the university

The traditional way of practice in Serbia means sending students to companies that are the future orientation of students after graduation. Research has shown that students are largely dissatisfied with the acquired knowledge, they are regarded as servants, rather than as a future colleagues, they do not have opportunity to spend time by doing concrete things, they are in many cases allowed to monitoring of employees, generally they spend very little time on practice, they are poorly motivated by the employees, the business climate that surrounds them is not motivating them efficiently in order to demonstrate their interests and to develop their potential. All this results in the following :

- The student upon completion of the traditional practice, does not have enough knowledge and experience, he gets the impression that he lost time, he gets the impression that he is spending other people's time, he gets the wrong idea of an efficient business environment, he gets the wrong impression about their profession and about discipline he studies, there is no possibility to use theoretical knowledge in practice, because of the time, terms and conditions of doing business, and practice of monitoring employees instead of active participation of student in creating strategies and solving the problems.
- The employer in this way, fulfills the obligations of contract with university, but inefficiently spend the time of its employees, which effects on productivity, while impressions of students can largely affect the image and reputation of the company.
- Feedback from students and from the market about the quality of completed practice as well as the expertise of students after completing their studies, speak a lot about the quality of faculty. The traditional way of practice has a profound effect on creating a positive image and reputation of faculty, especially when it comes to private colleges, who need good publicity focused on productivity and the skills of their students. All that is contrary to the positive image and reputation, gives negative impact on business development and competitiveness of faculty, at market of higher education.

Hypothesis 2. The VUC model is more productive than the traditional way of practice

VUC model represents a strategy that is focused on practical training of students, which lasts as long as their studies. Productivity is primarily reflected in the implementation of a unified approach to the students in order to develop their potentials to the maximum. With proper development of potentials and quality traits, the students are putting more efforts in the VUC program and in the regular part of teaching, they feel that their presence and view is appreciated, their presence is necessary because the projects are based on teamwork, have plenty of time but also a deadlines for completion of projects, the competitive spirit that is developed by VUC model directly increases the motivation of students. Students have the opportunity to get acquainted the real conditions of business, to participate in creating strategy and solving the problems. For four years VUC model is preparing the student to continue his professional career, but in ways to be far more competitive than their peers. Students who passed the program of practice over VUC model, are not establishing a working relationship for the first time, they continue to work, if not the same than similar job like the one they performed during the study. All this greatly differs from traditional performance of practice, which proves that the VUC model is far more productive and beneficial for all sides, for students, employers and for the university.

Hypothesis 3. VUC model short – term provides a status of inventor for the university

In an environment where the traditional way of practice is the most presented, every new strategy with different approach and principles, provides a status of inventor to the university, but only for a short period of time, because there are constantly new strategies on the market for creating and achieving competitive advantage. In the VUC model is very important to note, that as a new strategy provides a status of inventor for university, but also provides a status of the founder of a unique program, which contributes the upgrading of corporate culture, reputation and image.

Hypothesis 4. VUC model as a long – term program is focused on providing added value to the university and to the student

Primarily in economic framework VUC model provides long – term added value, but added value is not focused only on financial gain, but also to all other characteristics that contributes the creation of financial gains and creation of institution with distinctive corporate culture which represent a model for corporation with best practice.

On the other hand, added value refers to the student in a special form. Student entering the faculty with VUC program, gets an extra service in form of unique program of training for the same price of studies as in the competition, which does not have this kind of program. Not only the psychological impact of increased offer has positive effects on students and especially parents, they are also aware that such a program will help student to build his business career and help him to discover and develop their potentials to the maximum.

Hypothesis 5. VUC model long – term contributes the creation of competitive advantage of the university

By implementing the VUC model as a strategy of creating competitive advantage, the university in forefront sets the students, the development of its potentials and expert training, necessary to effectively respond to market challenges that await them after graduation. For every parent on the first place is very important the future of his child and how they will be in short term hired and the strategy of creating their business careers. Quality programs, courses, lecturers who have knowledge and skills gained at prestigious universities are just some of the advantages which the university can offer, but what is really important for students and parents is time after graduation and whether the student will have sufficient knowledge and skills to respond efficiently to the employers demands. The VUC model efficiently integrate and completes the general strategy of creating competitive advantage of the university. Undoubtedly, the university differs from competition and that difference is focused on two issues, research and development potential of the student and the professional training of students for successful career development. Innovation, entrepreneurship, differentiation, foundation of a unique program, development of corporate culture, reputation and image, are just some of the characteristics of short – term results of VUC model, which generates awareness on the competition about existence of new market player ,which the beginning of its business founded on an innovative strategy and with the help of a unique program. Usually, corporations or universities that act in such a way on the market, creating confusion and in a short time they put in knowledge the competition that they did not come on the market in order to negotiate about market share, but in perspective to take the leading position in the market. Previously mentioned characteristics can't instantly create a competitive advantage, but they can create the basis for building long – term competitive strategy and sustainable development, which is a prerequisite for achieving the leading position in the market of higher education.

Hypothesis 6. VUC model is a strategy aimed at providing practical knowledge to students, effectively provide a realistic picture of conditions on the labor market and to be more competitive in process of hiring

Moving the time limits in the professional training of students is necessary if university want to produce a modern and unique worker, who is after graduation capable and ready to respond on

employers demands. Students who find jobs after graduation and want to gain quality practice during their work are non-productive for the employer, and on the other side, advantage in hiring will always have a student who has sufficient practical knowledge and who can with a short adjustment to continue to do the job he knows and that he worked during the studies. VUC model is a strategy that creates real business climate and real projects able to efficiently prepare the student for the general business climate after graduation. VUC model requires full engagement of students, who for compensation for work that they are doing, gets the final evaluation of the practice without which they can't complete the school year. Student his vision of competitiveness built through a special model of responsibility, which is a bit rigorous, but effective in finding and developing potentials of students. A rigorous in the sense that a student has to devote sufficient time to the VUC program, it is necessary to become a team player, from his involvement depends on his final grade, and also very important, depending on his involvement, will get the final recommendations, which will largely determine the level of his competitiveness in employment. With quality work on the VUC program, students obtain enough practical knowledge that after graduation enable them to be more competitive in employment and to have better starting position in a corporation which is very important for further career development.

Hypothesis 7. Employers give advantage in employment to the students who have attended the VUC program, because their practice is considered as if they were already employed or completed an internship.

The survey has shown that employers give advantage in employment of the students or workers who already worked somewhere. After graduation student receives a VUC certificate signed by experts in the field of science who also have a quality reputation in the business and signed by successful businessman, whose signature confirms that students have passed the quality training and that they have received the highest recommendations from people who run large corporations and whose name is synonym for business success. The student in order to receive a VUC certificate, it is necessary to exert a great efforts and to use their own potential in an efficient manner. During the study the student is an active employee of the VUC, which is as a program recognizable to employers, that the practice of students performed at VUC is considered as they already have been employed or have completed an internship, which is essential when applying for a job after completing their studies and something that gives an advantage in employment compared to the competition.

Hypothesis 8. Parents and students have shown much greater interest in faculties who have VUC program than for those who deal with traditional practice

The crucial in the VUC program and what is causing the greater interest among parents and students is the process of finding and developing student potentials and how to develop their business career on more efficient and easier way. The traditional way of practice can't provide students with sufficient knowledge and experience as a VUC model, who is in first place with his innovative approach completely committed to developing the potential of students and effective preparation that will make them more competitive in employment and to train the students to quickly build and upgrade their business career. It should be noted that the VUC model is designed as a service that is exclusively in service of students and dedicated exclusively to the needs of students, compared to the traditional way of practice, where corporations are focused on doing their job and making profit for shareholders, and somewhere along the way in small

percentage they notice the students who wants to learn. Aware of this fact, parents and students have shown much greater interest in faculties who have VUC program, than for those who would give students the traditional way of practice.

Hypothesis 9. VUC model is a strategy that additionally motivates the student and creates a business environment based on communication and mutual respect between virtual corporate departments

VUC model requires teamwork and that is essential during the program. Students are constantly faced with new situations and problems that need to be resolved in order to realize the project and to get the passing grade. To achieve that, department directors and virtual teachers, influence the students to develop relationships based on communication and mutual respect. With daily communication, student his knowledge and opinions from particular area which is his major is transferring to another student, his colleague , in order to better understand the essence of the project and how he can effectively contribute through the prism of his own knowledge and skills, which are his major. This means, for example, a student from the Department for Human Resources introduces the students from Public Relations department and Department of Finance how his part of the project should operate and what is their role in that part of the project. In this way, students who are individuals, develop a sense of team work, students are motivated to complete their job better, they took a role of a lecturer and have a feeling that they are special and that their opinion mean to others, and also, the fate of the project depends on how they have transferred their knowledge and how they have received knowledge from the others. VUC model encourages two-way communication and teaches students how to listen and how to be listened to.

Hypothesis 10. VUC model is a strategy which successfully creates a good image and reputation of the university

The results from the market are the best indicators how good and successful is certain strategy.VUC model is a strategy focused on production of modern managers – leaders, who are able to efficiently respond to the employers demands and to take a quality starting point for further career development. Their work, ideas, commitment, positive influence on others, student spread positive energy and sets the standards in way of work and dealing with people and environment. All this as a product has the pleasure of the employer, which further spreads his satisfaction to the public, which is the foundation for building a quality image and reputation of the university.

After a month the VUC model is accepted by an a elite team of FIM, but with the explanation that in the short term is impossible to implement this strategy, but implementation is possible only for the next generation of students. This was acceptable , because the students can be engaged in VUC program at any time, the same as in the process of employment, only they need to start from the lower positions and to take lower positions in projects.

Do you on the basis of everything that is presented in this work can come to the conclusion that the VUC model can be the key strategy for achieving competitive advantage ? There was a lot of discussion on this issue on FIM, because the big blind was at stake and there was no room for mistakes. It must be noted that the FIM is new institution, which still need to demonstrate results and to justify the quality of their programs.



The greatest attention was focused on the students and especially their parents, because the FIM was aware that in most cases, the parents have the final say and they are the one who will decide what their children will study. According to research, the attention of parents in the selection and decision making was mostly focused on program quality, quality and profile of staff and the most on perspective of their children after completing their studies. FIM had a real answer related to the perspective of the students after graduation. Explanation of VUC model to students and parents demanded a special communication approach and strategy, because it was necessary to make a quality approach focused on simple explanation of essence of VUC model. Quality presentation of relevant information and providing explanations about the essence of the VUC model to the students and parents, the people responsible for the implementation of marketing campaign, were surprised by the impressions and positive critics. Parents and students were asking more questions than it was expected, which has shown that the VUC model is innovative strategy and something new on the market of higher education. The greatest fear and most questions were directed at the results of VUC program, because it is a new program and it did not proved his efficiency in practice . Such issues were expected, but there was explanation for that. Traditional method of practice have no similarities with the VUC model. The VUC model will be probably improved and be more efficient over time, but the FIM has convinced students and parents based on my research data, that the student after graduation will be far better capable and better prepared for the challenges on the market, unlike their colleagues, because the students of FIM study and work for years, and competition just study and attends traditional way of practice, which is incomparable for start and the real results focused on significance of this program will start to come in first months from the employer, who will first notice the difference.

## **Summary**

When the country is followed by the expression ‘‘third world country’’, it is necessary for private universities to be aware when building a strategy for competitive advantage, what that expression really means and what is the perspective of the formulated strategy. Choosing a unique strategy that should provide a competitive advantage, quality image and reputation to the university, sometimes looks like mission impossible, especially when you have conditions that are similar to those in Serbia. Intellectual property of certain corporation or of the country is something that continues to dictate development in all segments. There are various programs in Third world countries and especially in Serbia, which are aimed at economic recovery through public spending cuts, a variety of spending cuts and so on, but there are no programs that are aimed at producing high quality and professional personnel, as well as program for retention of such a personnel in their country. Every country has individuals who are special in a certain field of science or industry, but every country has no strategy to properly retain such a potential in their borders and to use them in order to start the economic growth. The first condition for survival of private universities is focused on improvement of the general living conditions, stabilization of political and economic situation. In order to create such a climate, beside the political will, it is necessary to have a knowledgeable and skilled staff, capable for creating positive change and to manage them efficiently. VUC model represents a unique strategy of development of students potentials and quality preparation for the challenges that await them after graduation. With the help of VUC model and its wide application, the labor market will get a new model of workers, who will based their way of doing business, fulfilling obligations and

further improvement on maximum exploitation of their own potentials. Although the use of VUC model is designed for business and technical schools, it is necessary to point out the crucial thing about this program, and that is that VUC model not only produces a modern and proactive staff, but represents the foundation of future economic development of a country, which is also human and socially responsible side of this program. A major efforts are necessary in order for VUC model to come to life and to become indispensable strategy of private universities in creating competitive advantage. It should be noted that the usage from other private universities of VUC model as a program will start after he shows quality results and produce professional and quality staff. All research data indicates that the VUC model – program is a strategy that can accomplish that and that in the long term represents a key strategy in creating competitive advantage in higher education in third world countries.

# DATA MINING IN MEDICINE: USING CART FOR PREDICTION OF OUTCOME IN SEPTIC PATIENT TREATMENT

**Marina Dobrota**

*Faculty of Organizational Sciences  
University of Belgrade, Serbia  
e-mail: [dobrotam@fon.rs](mailto:dobrotam@fon.rs)*

**Milica Bulajic**

*Faculty of Organizational Sciences  
University of Belgrade, Serbia  
e-mail: [milica.bulajic@fon.rs](mailto:milica.bulajic@fon.rs)*

**Zoran Radojicic**

*Faculty of Organizational Sciences  
University of Belgrade, Serbia  
e-mail: [zoran@fon.rs](mailto:zoran@fon.rs)*

## Abstract

Data mining has frequently been used to extract potentially new and useful knowledge from large databases in, among others, different areas of medical decision-making. In the paper, we present the basic characteristics and use of decision trees to extract information from large collections of medical data. Decision trees are a reliable and effective decision making technique that provide high prediction accuracy with a simple representation. We used classification and regression tree (CART) technique in the analysis of data from septic patients to predict the most probable result of treatments, based on the analysis made on the day of their hospitalization. CART illustrates the important prognostic variables as related to outcome. This technique may prove useful in setting the appropriate diagnosis and taking appropriate measures and actions in septic patient treatments. Predictive modeling was used to investigate these propositions, and Data mining is referred to as a useful tool for medical appliance, and the successful alternative to the traditional induction approach with the emphasis on future application in medicine.

**Keywords:** Data mining, decision trees, CART, sepsis, SIRS

## 1. Introduction

Global health is a major component of well-being and it plays important social and economic roles. Common goal of numerous clinical research is a medical decision making support. Nowadays, modern medicine generates great deal of data, stored in medical databases (Zhu, Wu, & Cao, 2003). Medical databases are very complex in terms of quantity, parameters and type of data. It becomes necessary to extract useful knowledge from these databases in order to support decision making for medical diagnosis and treatment. The traditional analysis of data has been insufficient for a very long time, and methods for efficient computer processing became necessary, such as technologies that have been developed in the area of data mining

and knowledge discovery in databases (Frawley, Piatetsky-Shapiro, & Matheus, 1991). Data mining is the science of discovering new information, such as unknown patterns or hidden relationships, from huge databases and it can deal with this issue in medical area.

Data mining has frequently been used to extract potentially new and useful knowledge from large databases in, among others, different areas of medical decision-making. The goal of this study is to discover that knowledge by “digging up” certain rules and patterns from raw medical data. The data set used in this study, is collected in a research of patients who were hospitalized due to certain injuries, and were diagnosed with sepsis or SIRS (see Section 2). The main idea of the study is to find the rules for predicting the outcome of patients’ treatment, based on the raw data, collected on the day of patient hospitalization.

Data mining is the application of specific algorithms for extracting patterns from data (Fayyad, Piatetsky-Shapiro, & Smyth, 1996). Data mining is a process that consists of applying data analysis and discovery algorithms that, under acceptable computational efficiency limitations, produce a particular enumeration of patterns (or models) over the data. Note that the space of patterns is often infinite, and the enumeration of patterns involves some form of search in this space. Practical computational constraints place severe limits on the subspace that can be explored by data mining algorithms.

Group of authors from University of Ljubljana, described various methods of data mining and explained their use in medical applications and problems (Lavrač & Zupan, 2005). There is a lot of research to prove this, so application of data mining can be found in cancer research (Khan et al., 2001), orthopedic disabilities (Chan et al., 2006), clinical epidemiology (Marshall, 2001), etc.

Tasks supported by data mining include prediction, segmentation, dependency modeling, summarization, and change and deviation detection. Lavrač and Zupan (2005) propose that in medicine, data mining can be used for solving descriptive and predictive tasks. Descriptive data mining tasks are concerned with finding interesting patterns in the data, as well as interesting clusters and subgroups of data. Predictive data mining starts from the entire data set and aims to induce a predictive model that holds on the data and can be used for prediction or classification of unprocessed instances. Data mining has been frequently used to solve different predictive tasks (Ramaswami & Bhaskaran, 2010; Chan et al., 2006; Khan et al., 2001).

Various data mining methods are used for predictive tasks, and the most popular are decision trees, neural networks, logistic regression, multiple regression, generalized linear models, discriminant models, support vector machine models, etc. Decision trees are widely applied in the analysis of medical data sets. Its application can be found in the diagnosis of sports injuries (Zelic, Kononenko, Lavrač, & Vuga, 1997), predicting the recovery of patients after traumatic brain injury (Andrews et al., 2002), prediction of recurrent falls of elder persons (Stel, 2003), and many other medical domains.

For the purpose of this research classification and regression trees method has been selected (see Section 2). A number of scientific papers deal with similar issues, but apply the method on different type of problems. Lemon et al. (2006) used it to identify distinct and meaningful population subgroups, and they compared it to a traditional statistical logistic regression method. They concluded that CART is a promising research tool for the identification of at-risk populations in public health research and outreach. Toschke, Andreas

and Rudiger (2005) consider that identification of children at high risk for childhood overweight is a major challenge in fighting the obesity epidemic and so they tried to identify the most powerful set of combined predictors for childhood overweight at school entry. They used CART analysis because they claim it provides a useful and precise tool for decision-making in the physician's daily routine by simple visual assessment of disease probability without the need of any calculations. Novotny et al. (2006) used a CART analysis in order to determine a cut-off value that could be used in routine clinical practice to estimate the risk of a lethal septic complication in patients. CART has also been applied to the problem of diabetes research stored in the relational databases, with time series and sequencing information (Breault, Goodall, & Fos, 2002).

This paper discusses an application of the classification and regression trees on medical data, explains the results and evaluates them. The subsequent part of the paper is organized as follows. The following section defines the problem this research tackles and explains the methodology. The third section shows the results of CART analysis and their discussion. Finally, the conclusions are given.

## **2. The problem and the methodology**

Medical profession deals with large amounts of data, and interest in systems, that make autonomous decisions in medicine, is growing, as data become more readily available. Data mining aims at integrating epidemiological and patient information, so that important information from different systems and databases can be compared. This contributes to global health by identifying certain patterns in the patient medical information, and by forehanded treating certain diagnosed diseases.

### **2.1 The problem statement and the data used in this research**

The problem that this paper deals with is finding certain rules to determine the outcome of clinical treatment. The idea is to find the possible outcome based on the analysis performed on the day of patient hospitalization.

Namely, the data source used in this paper is the set of information on patients, diagnosed with sepsis syndrome (SIRS<sup>1</sup>) or sepsis<sup>2</sup>. Patients were hospitalized due to certain injuries,

---

<sup>1</sup> Sepsis is a serious medical condition characterized by an inflammatory condition of the whole organism (which is called the Systemic Inflammatory Response Syndrome - SIRS) and the presence of known or presumed infection (Bone et al., 1992b). Body develops inflammation in response to the microbes in the blood, urine, lungs, skin and other tissues. It appears by penetration of germs and bacteria in the bloodstream, where the bacteria live and multiply in the blood and cause blood poisoning or sepsis. In such cases, large amounts of bacteria can be found in the blood.

<sup>2</sup> Sepsis may be associated with clinical symptoms of systemic diseases, such as temperature, fever, malaise (general feeling of "uselessness"), low blood pressure, and psychological changes. Sepsis can be a serious condition, a disease which is life threatening. According to some data, sepsis is the third leading cause of death worldwide. SIRS is an inflammatory condition of the whole organism ("system"), without a proven source of infection. SIRS is a body condition before the sepsis diagnosis. Simply put SIRS + infection = sepsis (Bone, 1992b).

and diagnosis was made on the hospitalization. They were treated for seven days, when certain blood and urine tests were made. During the treatment, some of them had died<sup>3</sup>.

In this article, research is based on the aforementioned blood and urine tests. It involves next input variables: *age, hematocrit, hemoglobin, thrombocytes, leukocytes, segmentation, glycemia, urea, creatinine, bilirubin, proteins, albumin, sodium, potassium, calcium, sodium phosphate, PCT (procalcitonin), C-reactive protein (CRP), partial thromboplastin time, D-dimer, plasminogen, ATIII (antithrombin), protein C*. The variables were measured on the day of patient hospitalization, so the research is conducted solely with the results based on the one-day treatment.

## 2.2. The methodology

In order to analyze data on septic patients, and to predict the most probable result of treatments based on the analysis made on the day of the hospitalization, decision tree technique was used. Decision trees are a reliable and effective decision making technique that provides high prediction accuracy with a simple representation.

One of the most popular decision tree methods is classification and regression trees (CART), used in this study. CART is the decision tree method used for classification and prediction. It illustrates the important prognostic variables as related to outcome. This technique may prove useful in setting the appropriate diagnosis and taking appropriate measures and actions in septic patient treatment. CART, a recursive partitioning method, builds classification and regression trees for predicting both, continuous dependent variables (regression) and categorical predictor variables (classification). Breiman, Friedman, Olshen and Stone (1984) popularized the classic CART algorithm.

This method recursively divides processed data to segments with similar values of the output fields. CART examines the input fields to find the best division measured by reduction of impurities resulting from the division. The division defines two subgroups, each divided again into two subgroups, and so on, until a stopping criterion is met. All divisions are binary.

One of the main reasons for applying this specific method is that in medical data analysis it is very important that the results can be interpreted to users in an understandable way. In this sense, the analysis tools should provide transparent results and minimize user intervention in the process of analysis. A good example of such methods are symbolic machine learning algorithms, that produce a symbolic model (e.g. decision tree or rule set) of low complexity, but high transparency and accuracy. CART is widely used for estimating and prediction. The system is reliable, efficient and able to process a large set of entities.

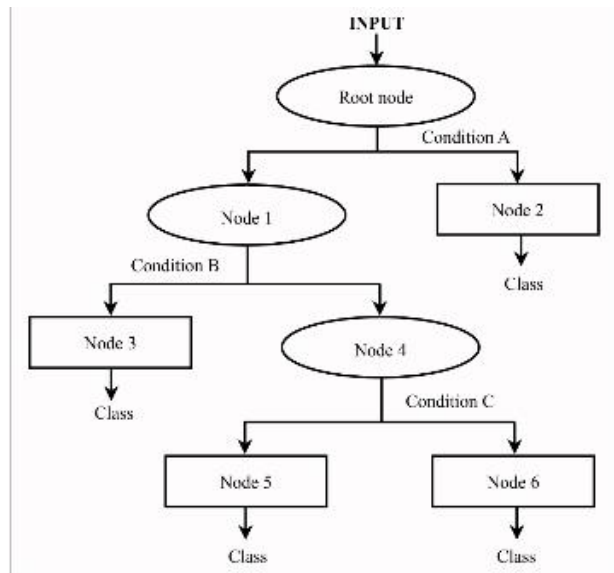
Decision trees systems with the top-down induction process, generate the tree from a given set of entities. Each internal node is labeled by the attribute, and the branches that link the nodes are labeled by the values of the attributes.

Tree construction process selects 'the most informative' attribute at each step, in order to minimize the expected number of cases necessary for classification. Let  $E$  be the current set (at the beginning the whole set) of processed entities, and let  $c_1...c_N$  be the classes to place the

---

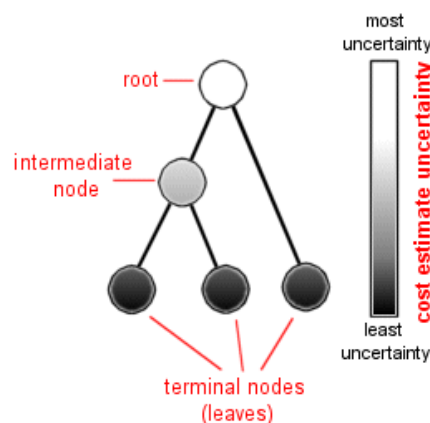
<sup>3</sup> Severe sepsis is a common cause of death in intensive care units, with a mortality rate exceeding 50% (Surbatovic, Jovanovic, Vojvodic, Filipovic, & Babic, 2004).

entities (Lavrac & Zupan, 2005). The algorithm for constructing the tree is consecutively called in each generated node. The construction of the tree ends if all the entities in the node belong to the same equivalence class  $c_i$  (or if some other stopping criterion is satisfied). This node, called the leaf, is labeled by the value of the class. Otherwise, 'the most informative' attribute, for example  $A_i$  is selected as the root of the sub-tree, and the currently processed set of entities  $E$  is divided into subsets  $E_i$  according to the values of the most informative attributes. Recursively, the sub-tree  $T_i$  is built for each  $E_i$ . Figure 1 shows the process of dividing data in order to obtain pure subsets (classes).



**Figure 1.** Dividing data in order to obtain pure subsets (classes)

Ideally, each leaf is labeled by exactly one class value. However, leaves could also be empty, if no entities with attribute values lead to the leaf; or they may be labeled by more than one class value (if there are processed entities with the same values of attributes and different values of the classes). Figure 2 shows the class assignment probability for the CART method.



**Figure 2.** Class assignment probability

One of the most important CART features is tree pruning, which is the mechanism for handling noisy data (Quinlan, 1993). In tree pruning, unreliable parts of tree are eliminated in order to increase the accuracy of classification when applying on new entities. CART provides an opportunity to grow the tree, and then it prunes the tree based on the cost-complexity algorithm, which adjusts the risk assessment based on the number of end nodes. This method, which allows the tree to grow out before pruning, can result in a smaller tree with better properties. Increasing the number of end-nodes generally reduces the risk for processed data, but the actual risk is higher when the model is applied to the new entities.

CART uses top-down approach in the process of building a tree. The main difference between CART and C5.0 tree algorithm (Quinlan, 1993) is that in the C5.0 construction of decision trees involves the classification into a finite set of discrete classes while in CART the decision variable can be discrete and continuous. In CART, the leaves consist either of a prediction into a numeric value or a linear combination of variables (attributes). CART (Breiman et al., 1984) features both classification and regression tree learning.

One of the CARTs advantages is its robustness with the missing data. Second is that the large number of input fields does not require a long time to process. It is easily understandable and has a simple interpretation. It can process categorical and continual data output (in our example, the data is categorical).

### 3. Results

Table 1 shows the results of CART analysis, performed in this research.

**Table 1.** CART model (0-„Survived“, 1-„Died“)

<b>Rules of the CART analysis (decision making support)</b>
Age <= 70.500 [ Mode: 0 ] (78)
Calcium <= 1.88 [ Mode: 1 ] => 1 (5; 1.0)
Calcium > 1.88 [ Mode: 0 ] (73)
ATIII <= 49 [ Mode: 1 ] => 1 (2; 1.0)
ATIII > 49 [ Mode: 0 ] => 0 (71; 1.0)
Age > 70.500 [ Mode: 1 ] (27)
Ddimer <= 329.50 [ Mode: 0 ] => 0 (7; 1.0)
Ddimer > 329.50 [ Mode: 1 ] (20)
Plasminogen <= 115 [ Mode: 1 ] (18)
Glycemia <= 5.95 [ Mode: 0 ] => 0 (2; 1.0)
Glycemia > 5.95 [ Mode: 1 ] => 1 (16; 0.938)
Plasminogen > 115 [ Mode: 0 ] => 0 (2; 1.0)



Tree construction process has selected variable *age* as 'the most informative' attribute in the first step. The conclusion is that if the patients is younger than 70.5, the tree is then spread according to the variable *calcium*, so if the calcium is less than 1.88, the expected outcome is *Died* (supported by 5 cases and 100% accuracy). If the calcium is more than 1.88, tree expands and for 'the most informative' attribute *ATIII* (*antithrombin*) is chosen. If the ATIII is less than 49, expected outcome is death (supported by two cases with 100% accuracy), and if the ATIII is more than 49, the expected outcome is *Survived* (supported by 71 cases and 100% accuracy). If the age is greater than 70.5, variables that the system chooses to be the spreading conditions are *D-dimer*, *Plasminogen*, and *Glycemia*. The decision rules are clear from Table 1.

Importance of input variables is shown in Table 2 (20 variables of which six are shown, with importance greater than 0.02).

**Table 2.** Variable importance

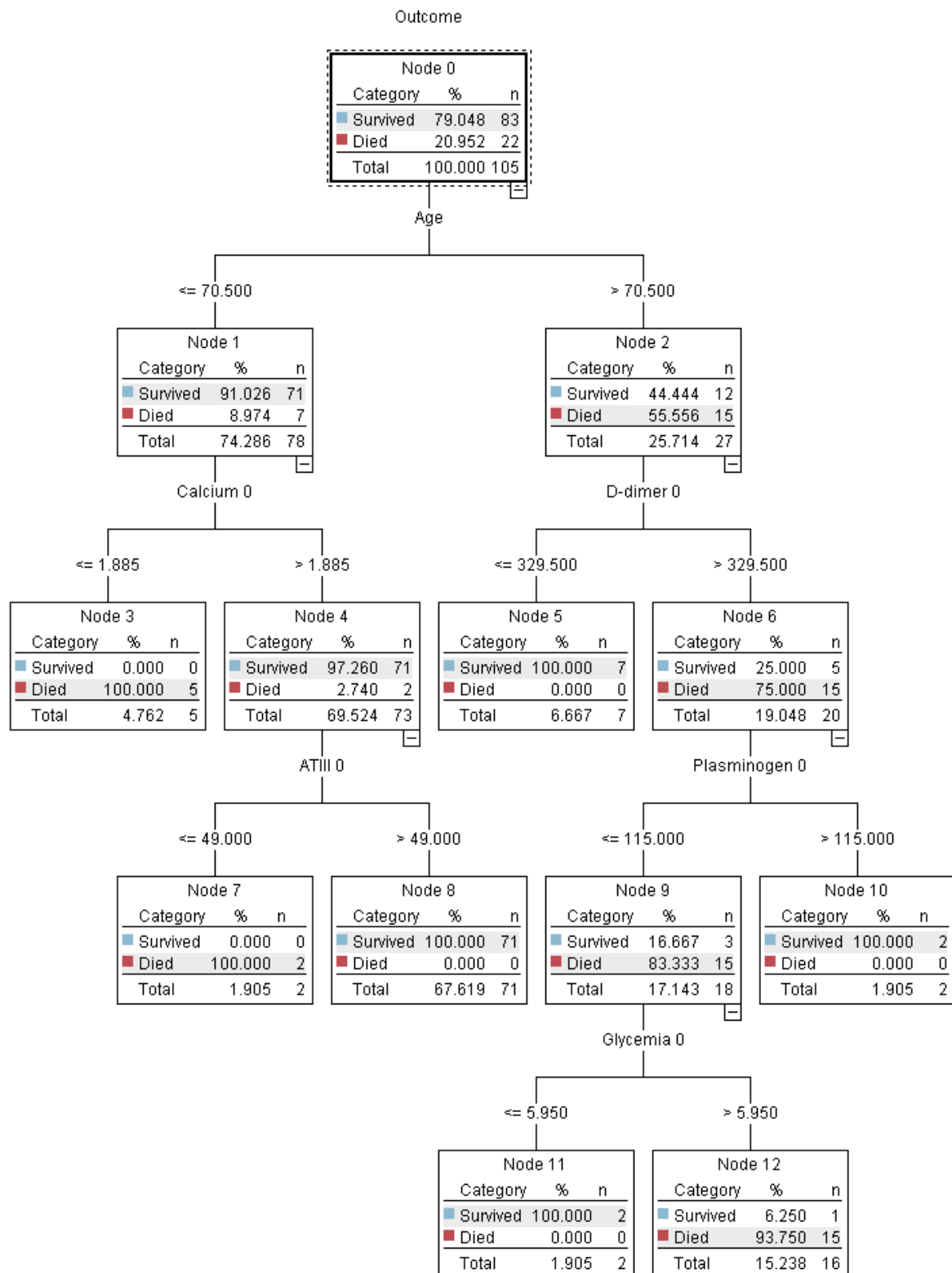
No.	Nodes	Importance
1	Age	0.3090
2	ATIII	0.1254
3	Glycemia	0.0841
4	Calcium	0.0734
5	CRP	0.0281
6	PCT	0.0281

Evaluation of the results is presented in Table 3. It shows that the CART model achieved an accuracy of 99.05%. Number of records is 105, out of which 104 records (99.05%) are predicted correctly, while 1 is predicted wrong. In Coincidence Matrix for \$R-Outcome (predicted Outcome) it is shown that 82 patients who survived and 22 who died are correctly predicted. Death is falsely predicted for one patient who survived.

**Table 3.** Accuracy results for the first experiment

<b>Results for output field Outcome</b>		
Comparing \$R-Outcome with Outcome		
Correct	104	99.05%
Wrong	1	0.95%
Total	105	
Coincidence Matrix for \$R-Outcome		
	\$R-Survived	\$R-Died
Survived	82	1
Died	0	22

The comprehensive preview of the results is shown in Figure 3, in a form of a tree.



#### 4. Conclusion

This paper is primarily meant to show how the Data Mining model can be used for the analysis of data in the field of medical research. Case study refers to patients, who were hospitalized due to certain injuries, and they were diagnosed with sepsis syndrome (SIRS) or sepsis. Patients were treated for seven days, when the blood and urine tests were made. During this period some of them had died. The goal was to predict the possible outcome, based on the blood analysis on the day of hospitalization.

This analysis has given some very interesting results. Firstly, application of CART on the available data (see Section 2.1) provides very high prediction accuracy. The model made correct prediction in 99.05 percent of cases. This makes CART a promising tool for prediction of treatment outcome. In addition, these results were obtained based on the measurements made on the day of patients' hospitalization, which is extremely significant from the financial point of view. Further analysis in the same direction is certainly recommended.

Secondly, the model shows that the variables most important for prediction are *Age*, *ATIII*, *Glycemia*, *Calcium*, *CRP* and *PCT*. If *ATIII* (*antithrombin III*) is taken in consideration, this supports previous research, concluding that *ATIII* activity decreased from normal baseline levels and were significantly lower in the group of patients who progressed to septic shock compared with those that developed severe sepsis and that *ATIII* measurements are sensitive markers of an unfavorable prognosis (Mesters et al., 1996). As for *PCT* (*procalcitonin*), this is consistent with previous publications claiming that *PCT* levels only became significantly lower in survivors than in non-survivors (Herrmann et al., 2000; Meisner, Tchaikowsky, Palmaers, & Schmidt, 1999). Furthermore, *PCT* has shown to be the parameter that indicates sepsis (Ivancevic et al., 2007) so it may not be odd to refer to it as a death parameter. Findings in this research strongly support the previous research. This proposition points out that specialists' attention could be directed to performing additional laboratory analysis, and testing and monitoring the parameters whose impact was assessed as relevant to the outcome of clinical treatment. Result would be improving the management of patient treatment, which is of great importance.

Thirdly, since the results are very valuable, they confirm that CART should be considered as a powerful tool for prediction and forecasting in medical applications. A number of scientific papers deal with studying and defining the application of data mining techniques and models in medical research. Results and scientific knowledge that have been obtained are respected and applied in the process of solving the problem of patient treatment management. Proposed data mining technique is referred to as a useful tool for medical appliance, and the successful alternative to the traditional induction approach with the emphasis on future application in medicine.

#### References

Andrews, P.J., Sleeman, D.H., Statham, P.F., McQuatt, A., Corruble, V., Jones, P.A., Howells, T.P., & Macmillan, C.S. (2002) Predicting recovery in patients suffering from traumatic brain injury by using admission variables and physiological data: a comparison between decision tree analysis and logistic regression. *J Neurosurg*, 97(2), 326-336.

- Bone, R.C. (1992a). Toward an Epidemiology and Natural History of SIRS (Systemic Inflammatory Response Syndrome). *JAMA Journal of The American Medical Association*, 268(6), 3452-3455.
- Bone, R.C., Balk R.A., Cerra F.B., Dellinger R.P., Fein A.M., Knaus W.A., Schein R.M., & Sibbald W.J. (1992b). Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *CHEST*, 101(6), 1644-1655.
- Breault, J.L., Goodall, C.R., & Fos P.J. (2002). Data Mining a Diabetic Data Warehouse.
- Breiman, L., Friedman, J.H., Olshen, R.A., & Stone, C.J. (1984). *Classification and Regression Trees*. Belmont, CA: Wadsworth.
- Chan, F., Cheing, G., Yui Chung Chan, J., Rosenthal, D. A., & Chronister J. (2006). Predicting employment outcomes of rehabilitation clients with orthopedic disabilities: A CHAID analysis. *Disability & Rehabilitation*, 28(5), 257-270.
- Fayyad U., Piatetsky-Shapiro G., & Smyth P. (1996). From Data Mining to Knowledge Discovery in Databases. *AI Magazine*, 17(3), 37-54.
- Frawley, W., Piatetsky-Shapiro, G., & Matheus, C. (1991). Knowledge discovery in databases: An overview. In G. Piatetsky-Shapiro & W. Frawley (Eds.), *Knowledge discovery in databases* (pp. 1-27), Cambridge, Mass.: AAAI Press / The MIT Press.
- Herrmann, W., Ecker, D., Quast, S., Klieben, M., Rose, S., & Marzi, I. (2000). Comparison of Procalcitonin, sCD14 and Interleukin-6 Values in Septic Patients. *Clinical Chemistry and Laboratory Medicine*, 38(1), 41-46.
- Ivancevic, N., Radenkovic, D., Bumbasirevic, V., Karamakovic, A., Jeremic, V., Kalezic, N., ... Zarkovic, M. (2007). Procalcitonin in preoperative diagnosis of abdominal sepsis, *Langenbeck's Archives of Surgery*, 393(3), 397-403. doi: 10.1007/s00423-007-0239-5
- Khan J., Wei J.S., Ringnser M., Saal L.H., Ladanyi M., Westermann F., ... Meltzer P.S. (2001). Classification and diagnostic prediction of cancers using gene expression profiling and artificial neural networks. *Nature medicine*, 7(6), 673-679.
- Lavrac, N., & Zupan, B. (2005). Data Mining in Medicine. In O. Maimon & L. Rokach (Eds.), *The Data Mining and Knowledge Discovery Handbook* (pp. 1107-1138). Springer.
- Lemon, S., Roy, J., Clark, M., Friedmann, P., & Rakowski, W. (2003). Classification and regression tree analysis in public health: Methodological review and comparison with logistic regression. *Annals of Behavioral Medicine*, 26(3), 172-181. doi: 10.1207/S15324796ABM2603\_02
- Marshall R.J. (2001). The use of classification and regression trees in clinical epidemiology, *The Journal of Clinical Epidemiology*, 54(6), 603-609.
- Meisner, M., Tchaikowsky, K., Palmaers, T., & Schmidt, J. (1999). Comparison of procalcitonin (PCT) and C-reactive protein (CRP) plasma concentrations at different SOFA scores during the course of sepsis and MODS. *Critical Care*, 3(1), 45-50. doi:10.1186/cc306
- Mesters, R.M., Mannucci, P.M., Coppola, R., Keller, T., Ostermann, H., & Kienast, J. (1996). Factor VIIa and antithrombin III activity during severe sepsis and septic shock in neutropenic patients. *Blood*, 88(3), 881-886.
- Novotny, A. R., Emmanuel, K., Ulm, K., Bartels, H., Siewert, J.R., Weighardt, H., & Holzmann, B. (2006). Blood interleukin 12 as preoperative predictor of fatal

- postoperative sepsis after neoadjuvant radiochemotherapy. *British Journal of Surgery*, 93(10), 1283-1289. doi: 10.1002/bjs.5404
- Quinlan, J.R. (1993). *C4.5: Programs for Machine Learning*. San Mateo, CA: Morgan Kaufmann.
- Ramaswami M., & Bhaskaran R. (2010). A CHAID Based Performance Prediction Model in Educational Data Mining. *IJCSI International Journal of Computer Science Issues*, 7(1), 10-18.
- Stel, V.S., Pluijm, S.M., Deeg, D.J., Smit, J.H., Bouter, L.M., Lips, P. (2003) A classification tree for predicting recurrent falling in community-dwelling older persons. *Journal of the American Geriatrics Society*, 51(10), 1356-1364.
- Surbatovic, M., Jovanovic, K., Vojvodic, D., Filipovic, N., & Babic, D.D. (2004). Significance of the determination of proinflammatory cytokines in the serum of polytraumatized patients with sepsis, *Vojnosanitetski pregled*, 61(2), 137-143. doi:10.2298/VSP0402137S
- Toschke, A. M., Andreas, B., & And Rudiger, K.(2005). Children at High Risk for Overweight: A Classification and Regression Trees Analysis Approach. *Obesity Research*, 13, 1270–1274. doi: 10.1038/oby.2005.151
- Zelic, I., Kononenko, I., Lavrac, N., & Vuga, V. (1997). Induction of decision trees and Bayesian classification applied to diagnosis of sport injuries, *Journal of Medical Systems*, 21(6), 429-444.
- Zhu, L., Wu, B., & Cao C. (2003). Introduction to medical data mining. *Sheng Wu Yi Xue Gong Cheng Xue Za Zhi*, 20(3), 559-562.

## Local Government and public services

# Public Administration, Communication Technologies and Crowdsourcing: Opportunity for Social Change

Authors: Prof. dr Mirjana Drakulić, Djordje Krivokapić, Mina Mirković

### Abstract

*Paper would try to analyze new models of communication between the citizens and public authorities, which will overcome disadvantages of existing models and improve the feedback of parties engaged; models which could motivate public institutions to respond to citizen's requests promptly even in the event that they are not urgent and highly risky.*

*Digital revolution, reduction of transactional and communicational costs as well as the change in society influenced by common use of technology provides a framework which could enable transformation of interaction between the citizens and public authorities. Currently citizens tend to perceive public authorities as complicated and apathetic and fail to provide them with relevant information "from the field", while on the other hand public authorities do not pay sufficient attention to individual petitions. This pattern makes a vicious circle to the detriment of both parties.*

*Paper should try to introduce theoretical model of crowdsourcing as a concept which enables the crowd to take active role and increase participation in community by using user friendly and efficient service provided by modern technical solutions. Moreover, paper will analyze probable use of crowdsourcing as a facilitator of communication between the citizens and public authorities and its potential to intensify the involvement of ordinary people in public governance and to give them transparent, easy to access and accurate method to evaluate the efficiency and quality of public and local administration.*

## Table of Contents

Abstract
Revolution in Communications Influenced by Digital Information Society
Crowdsourcing as a concept
Crowdsourcing Applications in Public Administration – Perspective
Categories And Model
Organizational changes necessary
Conclusion
Further reading

## 1. ICT and Society

The potential of ICT<sup>1</sup> to foster community and civic engagement is extremely important. The Internet could facilitate mobilization of interest groups and communities of interest by lowering the costs of communication and coordination. The Internet and related technologies, as a tool of community groups and public administration bodies, should enable them easier communication as well as access and integration of the opinions and ideas from group members and other stakeholders. Additionally, digital technologies are providing platform for individuals to connect with one another and important information sources regardless of their physical location. Consequently, reduction of transactional and communicational costs as well as the change in society influenced by common use of technology provides a framework which could enable transformation of interaction between the citizens and public authorities. Access to digital information could lead to citizens and communities that are deeply engaged in discussion and communication of their ideas and interests through on-line communications channels, (such as discussion groups and electronic mails) to elected representatives and other political officials.

During the last decade public administrations have placed special effort into developing government portals and offering online services. Modern concept of the electronic government or E-government refers to the current potential to build government services and practices using existing technologies and applications.<sup>2</sup> The main purpose of this concept would be making the public sector's activities more efficient, better use of public resources and achieving better governance. While this view encompasses online public services, the focus shifts to the use of ICT. Electronic government and electronic civics include in their competence the development, use, and implications of new practices, processes, forms and interests in government and civic life influenced by the Internet, World Wide Web and related information and communication technologies. They take account of the use and implications of the Internet for all forms of civic engagement from the development and articulation of individual and group values and interests in public affairs to the many relationships between and among communities, the policy, and the

---

<sup>1</sup> Information communication technology ("ICT") refers to the full range of information and communication technologies and applications currently used in digital and electronic government as well as those information technologies, systems, and applications on the developmental horizon. / Fountain E. Jane, 2003, *Information, Institutions and Governance: Advancing a Basic Social Science Research Program for Digital Government*, National Center for Digital Government

<sup>2</sup> Ibid.



state. Electronic government and electronic civics encompass the use and implications of ICT in all branches of government—the legislature, executive, and judiciary—as well as at all levels of government including local, state, federal, transnational, and global. Finally, we could expect that Internet increases the responsiveness and transparency of government.

## 2. Crowdsourcing as a concept

Crowdsourcing, in academic circles better known as “peer production”<sup>3</sup>, is an idea which allows a large group of persons to create, by making small individual contributions, a good that would traditionally have been produced by a single individual or an organization<sup>4</sup>. These goods are the most likely cultural or informational products while the most renowned new age product of this idea is Wikipedia, the online community-written encyclopedia, which is the most often cited example of successful crowdsourcing<sup>5</sup>.

From the economic perspective, peer production provides incentive to numerous actors to contribute in small portions in order to jointly and freely use the whole outcome of collaboration. This sort of collaboration is possible because the Internet has dramatically reduced the transaction cost of interaction between individuals<sup>6</sup>. Persons engaged in collaborative projects such as Wikipedia are often motivated by incentives other than cash compensation, including gaining a positive reputation within a community, and the intrinsic joy of creation and participation.

Considering that the citizens already possess sufficient incentives to report problems in their community and communicate with the public administration, it is not necessary to develop additional incentives for them to engage in a project which could crowdsource citizens' reports to the public administration but only provide technical solution/platform which will enable them to do so easily and effectively.

## 3. Crowdsourcing Applications in Public Administration – Perspective

Crowdsourcing applications applied in a field of public administration could become a new model of communication between the citizens and public

---

<sup>3</sup> Yochai Benkler, *Coase's Penguin, Or, Linux and the Nature of the Firm*, 112 Yale L.J. 369 (2002).

<sup>4</sup> Don Tapscott & Anthony D. Williams, *Wikinomics: How Mass Collaboration Changes Everything* 67 (2006)

<sup>5</sup> [www.wikipedia.org](http://www.wikipedia.org)

<sup>6</sup> Martin Kenney & James Curry, *Beyond Transaction Costs: E-commerce and the Power of the Internet Dataspace* 8 (Berkeley E-conomy Project Working Paper No. 18, 2000), available at [http://e-conomy.berkeley.edu/publications/wp/internet\\_and\\_geography.pdf](http://e-conomy.berkeley.edu/publications/wp/internet_and_geography.pdf).

authorities, which will overcome disadvantages of existing models and improve the feedback of parties engaged. The idea of these services is to facilitate the communication between the citizens and competent public bodies by using new technologies and to motivate public sector to be more effective in conducting its work in response to the received reports. Additionally, we hope that these models could motivate public institutions to respond to citizen's requests promptly even in the event that they are not urgent and highly risky. Bellow you may find the most important goals of crowdsourcing applications used in communication with public authorities:

- Engage citizens to take active role and increase participation in community;
- Bring the Government and citizens closer together through new social media;
- Create a public record of citizen's reports and public bodies reactions;
- Create a tool which will be able to evaluate the efficiency and quality of public and local administration service;
- Facilitate a forum for dialogue about improvements in the local community;
- Influence the creation of more agile and citizen-oriented local and public governance;
- Generate a pressure on public institutions to get things done; and
- Closing the Digital Divide – Impact greater utilization of mobile technologies and Internet.

Stakeholders for crowdsourcing applications used in public administration could be divided into several interested groups: Citizens, Associations of Citizens, Local Communities, Municipalities, Public administration, Medias, and even Telecommunications Companies. Each group is in position to get variety of benefits by using the above mentioned applications.

By using crowdsourcing concept, the citizens will be able to easily and effectively report all impediments and problems in their community and also be better informed about the initiatives of their neighbors. This potential improvement in their mutual relationship and everyday activities is possible due to the opportunity to work collaboratively with the public administration bodies. Higher public engagement and better communication should make more likely that local problems will be solved what is of high interest to citizens.

Other stakeholders could get their benefits as well. Associations of Citizens can get data unification and better control of efficiency and thus establish a system for evaluating progress and functioning. That way hardworking public servants and managers in public administration could get the credit they deserve.

On the other hand, Local Communities, Municipalities and Public administration bodies can increase transparency and accountability through the innovative use of ICT, by receiving useful report which includes photo and precise location of the problem together with reporter's comments. This could reduce the workload of the administration, clarify their competencies to the public and announce it to the citizen-reporter. Top management of public administration could easily track efficiency of response to the citizen's requests between different public institutions and their efficiency and success in removing problems.

Medias could use crowdsourcing applications as a fishing pull where they can find interesting stories and easily follow their development and public sector reaction. Additionally, based on the collected information they would be able to rank public sector institutions and their efficiency.

Telecommunications companies are very interested to increase usability of their products by employing crowdsourcing public administration applications which could use the potential of their infrastructure and thus their traffic and services are increasing. Long term perspective role of telecommunication companies in crowdsourcing is raising the awareness of mobile technologies' potential in community and placing mobile technologies as an important part of everyday life.

For example, in the Republic of Serbia 21.8% of households is accessing the Internet via mobile phone, 82.7% of the population uses a mobile phone, 72.3% of people use Internet every day or almost every day while 3,7% of mobile users uses 3G and 23,5% WAP and GPRS Internet access over mobile phones. If this data are compared to the data from previous years it is evident that the number of Internet users is increasing steadily as well as the number of those who use mobile phones for Internet access.<sup>7</sup>

The most important target groups that could use the crowdsourcing application could be divided into three major groups that comprise a large proportion of the population. *Active Citizens* older than 40 who are not familiar with modern technologies but have an interest in removing "errors" and increasing quality of life. *Citizens in rural areas* living out of the cities have really bad communication channels with public administration which is usually far away from their home. *Young people*, for example young parents, entrepreneurs and civil activists, people that are predominantly tech savvy and therefore the use of the such platform would be for them a natural way to communicate with public institutions.

---

<sup>7</sup> All data have been obtained from the web portal of Statistical Office of the Republic of Serbia (<http://webrzs.stat.gov.rs>)

Right now it is possible to find various examples of such applications that have been developed and used successfully for some time and allow the above mentioned benefits for everyone involved. Probably, most known are FixMyStreet<sup>8</sup>, FixCity<sup>9</sup>, Mark-a-Spot<sup>10</sup>, CitiVox<sup>11</sup>, Crowdmap<sup>12</sup>, etc. For better understanding of what can be achieved using these applications, and how to use them, we will provide a brief description of two of them – Crowdmap and Mark-a-Spot.

Crowdmap uses the power of the crowd to monitor and visualize what went right, and what went wrong, in an election.<sup>13</sup> Crowdmap is a tool that allows you to crowdsource information and visualize them on a map and timeline.<sup>14</sup> Additionally it allows collection of information from cell phones, news and the web, aggregation of these information into a single platform and placement on a local municipality map. Today, one of the most powerful ways to present and communicate information is to visualize them via map while connecting off line world with digital environment. Crowdmap is designed and built by the people behind Ushahidi<sup>15</sup>, a platform that was originally built to crowdsource crisis information. Firstly, the Crowdmap was built for mapping crisis information (natural disasters, epidemic or political crisis), but it evolved into mapping local knowledge and business information as well.

Mark-a-Spot is an open-source and web-based tool designed to display, categorize, comment and rate places in urban environments.<sup>16</sup> Namely, the idea is to let citizens report issues, like broken street lighting or lack of accessibility, have these issues displayed, rated and commented thus identifying hotspots which are then georeferenced via map (Google Maps and OpenStreetMaps). Also, Mark-a-Spot can be used by common mobile device platforms as IOS, Android, BlackBerry, Windows Phone, Symbian and so on.

In practice, for example, people with handicaps used Mark-a-Spot to display their barriers in public spaces, providing valuable information for Public Authorities to act upon. .

#### 4. Categories and Models

---

<sup>8</sup> <http://www.fixmystreet.com/>

<sup>9</sup> <http://fixcity.org/>

<sup>10</sup> <http://www.markaspot.de/>

<sup>11</sup> <http://citivox.com/>

<sup>12</sup> <http://crowdmap.com/>

<sup>13</sup> <http://crowdmap.com/>

<sup>14</sup> <http://crowdmap.com/mhi/page/4>

<sup>15</sup> <http://www.usahidi.com/>

<sup>16</sup> <http://www.markaspot.de/en/>

It is common knowledge that most citizens are not familiar with the system of public administration and duties and competences of particular bodies. Therefore, due to regular problem to identify jurisdiction for solving existing or perceived problems it is not rare that they end up not being reported at all. Thus, valuable information is lost to detriment of all parties involved.

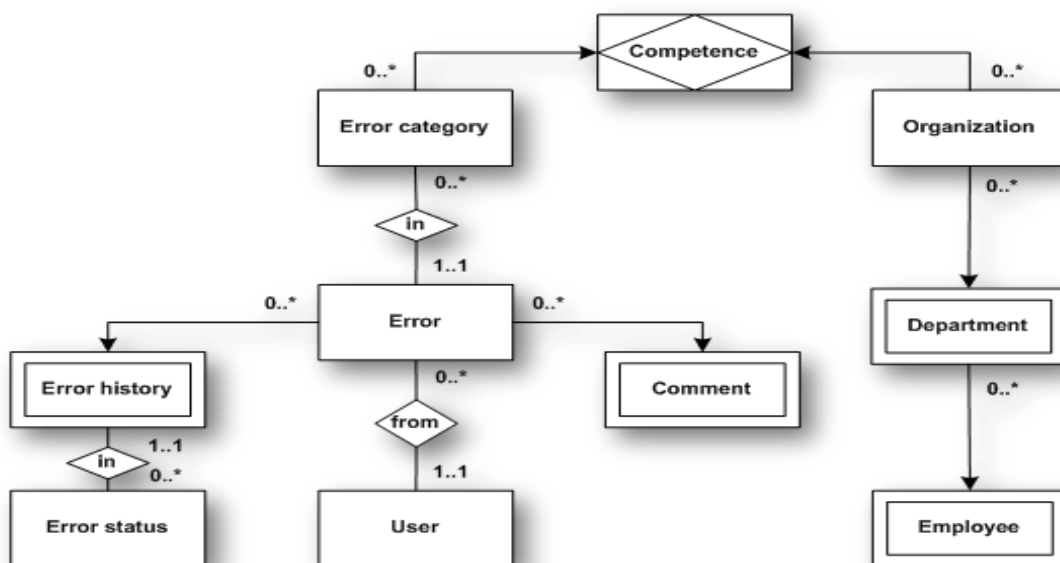
Crowdsourcing application we describe in this paper would be developed as an application accessible from smart phones, personal computers and other Internet friendly devices, which would allow citizens to report errors and problems in their local community to competent institutions by posting photos, locations and other relevant information. The application would enable citizens to send notifications of particular problem to all competent institutions just by choosing the appropriate category available for selection. However, developers have to pay special attention to development and adjustment of web service to the smart phones in order to provide citizens fast, efficient and user friendly platform. Namely, the main idea is that a citizen/user could take a photo of the error from his smart phone and immediately upload it to the service together with its location which would be automatically dragged from smart phone's GPS device. In that way, the user could report a problem and supply service with all necessary information in just a few minutes. However, computer users will not be discriminated since computer access to the platform should be enabled as well, together with monitoring the progress of problems reparation and discussion on problem related issues.

The report sent by the citizen will include the location of the problem, photo (if uploaded) and comments and recommendations provided by the citizen. On the other side it should provide opportunity for the citizens to be informed which particular institutions have been notified, so that they can easily track their actions upon the reported issue. Additionally, other citizens will be able to monitor all of the submitted problems and add their comments and suggestions. Accordingly, the institutions will be able to reply to a particular report if they are not competent to solve the reported problem or to provide citizens with any information related to the ongoing procedure of problem solving.

In order to create a system which could disseminate reports to competent public institutions automatically it is necessary to get one additional piece of information from the user which could help facilitate this process effectively. Namely, this issue could be solved by inserting one additional step in which the user needs to choose the type of problem by choosing one of the following categories (these are only theoretical examples):

1. Utilities
  - a) Water
  - b) Sewer
  - c) Electricity
  - d) Gas
  - e) Fire hazards
  - f) Street light
2. Traffic, Streets & Sidewalks
  - a) Street signs & signals
  - b) Traffic signs & signals
  - c) Sidewalks
  - d) Parking violations
  - e) Taxi complains
  - f) Public transport
3. Parks & Playground
  - a) Playing and sports equipment
  - b) Park / playground lighting
  - c) Trees
  - d) Cemetery issues
4. Garbage and Environment
  - a) Garbage (dumpster overflow)
  - b) Graffiti
  - c) Illegal dumping
  - d) Bugs problem
  - e) Noisy dogs
  - f) Dead animal

The question that naturally arises is: What would happen to the particular problem once it has been reported? First, notifications are sent out to public officials and community leaders. This way, local issues find straightforward info from those who know the area best. Notifications are sent out to all the watchers in the community when you comment on an issue or change its status. Each report gets its own status that can be displayed using the flag: red, yellow and green. Red would mean that nothing has been done yet, yellow means “still fixing”, and green that the problem is resolved. This might be shown on a map, as well.



Above is the model that shows how such application would work. User can send issue report, called Error. Every report has its own Error history and Comment tabs. Error history tab shows who sent the report, on what date and time, details recommended by User and precise location of the Error. Error history tab also includes Error status, explained by colored flags. Comment tab shows authorities' feedback on resolving the problem.

Based on personal opinion to which category the Error belongs to, the User chooses the category from the list provided. Each available category is assigned with the competent organ within the Local Administration Authorities. Clear competence scheme drafted by projects legal support, would hopefully prevent authorities from dodging their competences, but would motivate, or at least pressure them to get the work within their jurisdiction done. Finally, the project should contribute developing strict and clear competence scheme within the organ and its employees themselves, providing precise responsibility and agility control and better communication,

### Organizational changes necessary

As communities develop and change characteristics in the process of using the Internet to organize and communicate, one should expect an influence on the institutions of government and on civic affairs.<sup>17</sup> Public administrations are not merely passive receivers of technology, but their regulations, processes and own organizational forms play an active and determinant role in the final configuration of the ICT. Consequently, modifications in relationships among government agencies across local, state, federal and national jurisdictions and between public, private and nonprofit organizations are of great importance.<sup>18</sup>

Today policymakers use ICT to restructure government agencies, operations, and relationships across agencies and with nongovernmental organizations. Agencies have made information available on-line. This information are, in most cases, about laws, rules and regulations as topics of immediate interest to citizens such as retirement, disability, health, education, housing, the environment. Finally, interactive public services are increasingly available including tax filing for individuals and businesses, licensing, registration, and permitting. While putting government information and services online created initial public interest for the government investment in technology, it is the

---

<sup>17</sup> Douglas A. Galbi, 2001, *E-Government: Developing State Communications in a Free Media Environment*, **Federal Communications Commission**

<sup>18</sup> Fountain E. Jane, 2003, *Electronic Government and Electronic Civics*, Harvard University, John F. Kennedy School of Government

technology enabled improvement of the government itself – its structure, processes, workforce, even culture.

Opinions vary as to how ICT affect organizational structures; it is often understood that ICT facilitate the emergence of a flatter organizational profile by reducing the number of managers in an organization. In general, the intensive use of ICT tend to have the effect of reducing compartmentalization, the number of departments and hierarchical levels, and improving and horizontalising the internal communication and decision-making through the interoperation of data bases and increase of communication channels. So, middle managers in organizations that are highly centralized, such as the public sector, are consequently exposed to the downsizing effects of ICT. But, the extreme rigidity of personnel systems in the public sector and the influence of political forces may greatly reduce these effects.

Although radical transformations at the institutional, formal level of public organizations have not been observed yet, the new channels of interaction and the resulting citizens' aggregate information affect the dynamics, informal structure of the administrations at the individual level of ongoing social relations and at some extent, at the organizational and inter-organizational level, through weak ties between individuals.

## 5. Conclusion

Communication with Governments and public administration authorities has to be transparent. The future may benefit from a much broader and more significant role of transparency of such communication. The development of Internet can potentially provide ubiquitous, low cost, multi-media communications capabilities. Cheaper, more capable communications channels provide public authorities with an important new tool for providing public services, enhancing democratic political discourse and promoting private economic development.<sup>19</sup> This is equally true for all levels of government as well as the entire public sector which could usefully seek to attract significant attention in an information society.

ICT will advance in ways that make the future of governance even more unpredictable than it currently appears to be and that will have yet unknown effects on communities. Changes in communications industry structure could provide a much wider range of effective opportunities for communications. Great potential of technological changes include greater use of wireless

---

<sup>19</sup> Fountain E. Jane, 2003, *Electronic Government and Electronic Civics*, Harvard University, John F. Kennedy School of Government



communication, personal digital devices, instant messaging and these new technologies will become more dominant compared to personal computers, chat rooms and computer-mediated text communication.

The future direction of electronic government and electronic civics lies beyond the mere provision of government information and services on-line. Of great importance are modifications in relationships among government agencies across local, state, federal and national jurisdictions and between public, private and nonprofit organizations.<sup>20</sup>

The concept of "network administration" is closely related to the network structure in order to characterize the new social morphology of the informational society. By way of analogy, the network public administration could be conceptualized as an organizational form characterized not only by the connection and interoperation between the information systems and the management procedures, but also by a tendency to change the operation of the organization towards more flexible management, more adaptability to changes and with relationships that are more horizontal than those which predominate in the traditional administration. In this type of organization, the networks between the public and the private sector design and manage public policies, within a contingent and dynamic character, in a political system where the citizen plays a role as a user of public services as well as co-manager of the administrative procedures, through the new forms of participation and interaction.<sup>21</sup>

Finally, it seems that the above described crowdsourcing application would ideally fit in a concept of the network administration and provide numerous benefits to all interested parties.

---

<sup>20</sup> Fountain E. Jane, 2003, *Electronic Government and Electronic Civics*, Harvard University, John F. Kennedy School of Government

<sup>21</sup> Waksberg Guerrini Ana, ***E-Government and Online Government-Citizen Interaction - A Prospective Theoretical and Analytical Framework for Investigating Their Effects on the Organisation of Public Administrations and Service Delivery***, **Working paper!!**

14<sup>th</sup> Toulon –Verona Conference, University of Alicante, Spain 1, 2, 3 September 2011

**Annamaria Esposito**\*

Assistant Professor, IULM University of Milan  
Institute of Economics and Marketing, via Carlo Bo 8, 20143 Milan  
[annamaria.esposito@iulm.it](mailto:annamaria.esposito@iulm.it) +39.2.89141.2742

## **Insights about communication planning in Health Care: An exploratory study**

### **Introduction**

The paper investigates, via a specific case analysis, if Communication Planning is a valuable strategic process in Health Care organizations.

A single case study research, through interviews and document analysis, has been carried out. After presenting the planning methods most frequently used and cited, in order to explore what is the Italian approach to health communication planning, this paper discusses the case study of Istituto Clinico Humanitas, a centre of excellence in terms of quality of its healthcare in Milan Italy.

The paper highlights the communication planning process in health care institutions through the description of the communication planning process of Istituto Clinico Humanitas. It reports the organizational-relational aspects that have emerged in the planning process, and the performance monitoring system that Istituto clinico Humanitas has implemented to evaluate its communication planning process.

Despite the inclusion of a single and specific case included, the paper is to be considered a starting point for further investigations on this topic and it is useful for managers and practitioners who want to improve the effectiveness of communication in health care.

The paper represents the exploratory phase of a research study in healthcare.

### **Communication in Healthcare**

Properly planned and designed health communication can inform and influence individual and community decisions that enhance health (Freimuth and Quinn, 2004), and also increase knowledge, reinforce a behavior, advocate a position, and increase demand for services.

Communication planning is the process of focusing the right messages on the right audiences at the right time. Organizations communicate to inform, persuade, prevent misunderstandings, present a point of view, or to reduce barriers. A plan will ensure efficient and effective communication that fits the resources of the organization.

---

\* Annamaria Esposito is Assistant Professor of Corporate communication at IULM University. She is currently Faculty member at the course of Corporate Communication at the Master Degree in Consumer and Trade Marketing at IULM University and Academic Coordinator of the Faculty of the Master in Health Service Management. She is a member of the research team of the Internal Communication Laboratory.

Main research interests and teaching: marketing and marketing-communication of goods, luxury goods, healthcare communication, services and issues related to strategy, planning and evaluation of the communication plan.

It is rare to find in Italy a corporate communication department in such of complex organizations as health organizations. The complexity arises also from the fact that health institutions relate to many stakeholders with different languages depending on the group to whom the institutions address their messages and on the content of the messages.

In Italy, corporate communication planning for healthcare organization, is a relatively new branch of management and only a few health organizations have implemented a corporate communication department. They are private or public health organizations especially in Northern Italy. However, till now, there are not consolidated practices.

In fact most health organizations don't institute a corporate communication department but organize an office that supplies services to facilitate links between the hospital and the citizen (Levi, 2004). The primary objective of this office is to improve the quality of services offered and the cooperation between the health organization and the citizens.

Main office purposes are: encourage citizens access to information, services and activities of the company; to promote transparency and efficiency of administrative activities; to activate listening processes aimed at identifying needs and improving the quality of services; to promote, through public communication plan; to enhance internal communication and to ensure consistency between internal and external communication. Unfortunately, communication is often one-way: health organization informs instead of interacting.

Italian health care companies have started to plan for health communication in delay compared to those of Anglo-Saxon world. Furthermore, there are two speeds for projecting and adopting communication plan due to the composition of the Italian health system in: public (Local Health and Hospitals), accredited-private health facilities, and private health facilities. While accredited and private health facilities are dynamics in this field, the culture of planning communication in the Italian public healthcare is a relatively recent experience. Only in early 2000 a written law was introduced in order to regulate the communication activity, and consequently planning, in the public sector, and then in the public healthcare sector.

The law is addressed to design a communication system able to build good relationships between the public system and users based on an "equal exchange" and listening skills, not only in the corporate communication department, but in the whole organization (Rolando, 2010 e 2011).

The communication policy requires separating health communication into different typologies (Esposito, 2010): external communication, directed towards the public, has the primary purpose of disseminating information, raising awareness, facilitating access to facilities and services and increasing healthcare visibility among users; internal communication, addressed to the staff, allows the communication of information about patients, and healthcare reports. But internal communication is also the means for staff involvement so as to achieve better results and to develop a sense of belonging to the organization. Effective internal communication allows the health organization to enhance staff skills, resources and expertise to achieve set goals, to avoid misunderstandings and to offer a high quality service able to satisfy the users.

The communication contributes directly to the success of the company, building, maintaining and managing its reputation and relationships. These things are true for health care organizations too. So the main question is: how are health organizations planned and managed?

### **Communication Planning Models: a literature review**

Studies on communication planning (Mazzei, Esposito, 2010) highlight the benefits that it brings to the governance (Vecchiato, 2008), the development of a corporate brand consistent

with the corporate identity (Pastore, Vernuccio, 2008) and the management of relations with competitors (Vescovi, 2008) and stakeholders (Muzi Falconi, 2002).

Planning communication allows managers to define its role in business strategy (Collesei, Ravà, 2008), focus their efforts more effectively, achieve the objectives, maintain a long-term vision, prepare for change (Gregory, 2000, 2009), reconcile conflicts, use resources effectively (Douglas et al., 2007), call for proactive behaviors (Wilson, Ogden 2008) and finally legitimize the role of communication in the organizational system (Invernizzi, 2000).

Planning is essential to ensure success also in health communication, so as in other kind of industries like banking, travel, and retail. In fact, planning for health communication provides a framework that can stimulate thinking (Gregory, 2009) and guide the practitioner (Soto Mas et al. 2000); it ensures that in any communication activity, both the main problem and its solution are identified (Corcoran, 2011).

The Italian and international literature offers several models for planning communication.

Mazzei and Esposito (2010) analyzed few models, chosen among those most frequently cited models, validated by empirical testing, and published in respected scientific contexts, i.e.: the input-transformation-output method developed by Van Riel (1995), the method Apice of Invernizzi (2000), the method in nine steps by Gregory (2000, 2009), the proposal of Wilson and Ogden (2008) and finally the development of Smith (2009).

For the specific area of communication planning for healthcare further frameworks are considered. They are: the total planning process model developed by the National Social Marketing Council (2006b), the precede-proceed model of Green and Kreuter (2005), the intervention of mapping developed by Bartholomew et al. (2011), and the Interactive Domain Approach (Kahan, Goodstadt, 2002).

Each method has some distinctive feature: the sequence of processing steps (Van Riel, 1995; National Social Marketing Council, 2006b), the modularity of the phases in which the plan articulates (Invernizzi, 2000), the need for a specific framework (Gregory, 2000; Bartholomew et al., 2011; Wilson, Ogden, 2008; Green, Kreuter, 2005) or matrix (Smith, 2009) for the coordination of the process.

In addition each method has specific key factors for the success of the communication plan. They are: protocols to led communication planning (Van Riel, 1995); maintaining relations with all stakeholders throughout the planning process (Invernizzi, 2000; Bartholomew et al., 2011), specify the mode of assessment (Gregory, 2000), provide tools to monitor the efficiency and effectiveness of the process (Wilson, Ogden, 2008); determine the objectives in an appropriate manner (Green, Kreuter, 2005; Smith, 2009); consider values goal and ethics (Kahan, Goodstadt, 2002).

All analyzed planning don't take into consideration the relational aspects emerging from the planning process, and they consider communication planning as an operative communication tool (Mazzei, Esposito, 2010). This logic is opposed to the logic which considers the communication plan as a process that involves "people working at many levels and that involves explicit and intense negotiations" (Airoldi, Brunetta, Coda, 1989 p. 474).

### **The organizational and relational model for planning communication in healthcare**

The organizational and relational communication model, defined by Mazzei and Esposito (2010), highlights the relational aspects of the planning process.

The concept underlying the organizational and relational communication model, comes from the Speech Acts Theories (Austin, 1976; Searle, 1969) and it is based on the action workflow method (Medina-Mora, et al., 1992 ) for business process re-engineering.

The organizational and relational communication model describes the communication planning process as a sequence of activities and as a process of conversations aimed at

defining a network of commitments between people who are involved. It therefore emphasizes the relational nature of all organizational processes and it is connected with the creation of intangible assets, such as mutual trust.

The method of the action workflow applied to the communication planning process, allowed to identifying a model divided into three components: the customer, the supplier and the phases. The customer is usually the top management of the organization who brings out the need to plan and entrust the communication to the supplier; the supplier is the responsible for communication, who has to satisfy the requests on time. Furthermore the model has four phases: exploring, setting, acting, and valuing. Each phase is composed of several sub-processes, and generates intangible resources as output (Mazzei, Esposito, 2010).

Exploring is the phase in which the starting situation and communication needs of the health organization are analyzed. It includes three sub-processes: the identification of issues, the selection and analysis of the target groups. In healthcare the identification of the strategic objectives of communication is very important to understand the path that the organization wants to start. Goals should be defined and explained, they have to be consistent with the mission and values of the organization, and shared with the customer (Invernizzi, 2000; Gregory, 2009). The context analysis is useful to identify the dynamics, the emerging issues, and the environmental factors, in which the organization works. The analysis of stakeholders includes the analysis of communication needs (Mazzei, 2001) and attitudes of the interlocutors (Hallahan, 2001). Stakeholder analysis is useful to determine the kind of language to be adopted in health communication. In fact there are many typologies of stakeholder, i.e. patients, citizens, doctors, pharmacists, nurses, each of them need a specific linguistic register. The stakeholders needs' analysis can identify the most appropriate contents and the communication tools to achieve the health communication goals. At the end of this phase the communicator knows what the strategic objectives are, the constraints and the main elements of the internal and external context, who the stakeholders are and their communication needs and attitudes. The intangibles generated during the exploring phase are awareness and legitimacy of the role (or roles) responsible for communication.

Setting is the stage in which the plan is negotiated and designed in order to achieve the goals. It consists of four sub-processes: the identification of the strategy, the definition of operational objectives, the determination of the budget and the drafting of the communication plan. Identifying strategies for action involves identifying the actions that a company undertakes with respect to a specific situation, subjects and contexts inside and outside the organization (Rispoli, 1984). It is the "big idea" (Gregory, 2000 p. 118) which can transform the initial situation into what practitioner wants.

The operational objectives, also known as tactical, have been defined as "specific milestones that measure progress or achievement towards a goal" (Guth, Marsh, 2000, p. 241). Compared to the strategic tactical ones are more specific, have operational contents and are achievable over a relatively short period of time (Drucker, 1954).

Budget is a constraint to be considered from the outset of the planning process. The different methods of budgeting can be used in an integrated way in the various areas of corporate communication (Kotler et al., 2010; Pastore, Vernuccio, 2008).

The project considers the most suitable communication tools for achieving objectives and reaching selected stakeholders. The communicator also defines messages and other communication initiatives to be implemented. For each part of the plan it is worthwhile to clarify the responsibility and timing of implementation, the resources needed and the evaluation methods.

The project is the final stage of setting phase. The plan will be submitted, for approval, by the CEO and it will be implemented once approved. During this phase intangibles are generated

through socializing and sharing the whole project with people involved in the communication process.

Acting is the phase in which all initiatives planned are realized to get to the results of the communication plan. The phase is divided into two sub-processes: the detailed design of activities and the project management. The detailed design is to specifically define all the initiatives established by the communication plan. Project management includes the management of the communication process, the relationships caring and information gathering for monitoring.

At the end of the phase of acting, the communicator can present to the customer the results of the carried out activities so that they can be evaluated. The implementation of planned activities and initiatives in the communication plan helps to generate engagement, active participation and partnership by all parts of the organization.

Valuing is the phase in which company can capitalize, and spread the knowledge generated during the communication planning process. In this phase the communicator presents to the CEO the achieved and assessed results in accordance with the procedures agreed ex ante. The customer verifies that the original agreement has been satisfied and, if so, the process is closed and restarted to achieve new strategic goals.

Valuing includes the evaluation of the results of programs and initiatives and the evaluation of the effects for the company as a whole (Mazzei, 2001 and 2007). The evaluation of programs and initiatives is conducted to measure the exposure degree of the organization, and the output of the communication activities, to analyze the audience reached, and finally, to evaluate the effects of communication activities on stakeholders, in terms of changes in their attitudes and behaviors and in order to know whether these changes persist over time (Lindemann, 1997).

### **An empirical explorative analysis: methodology**

The purpose of the study is to analyze the importance of communication planning in health care institutions. The analysis will be based on a case study: Istituto Clinico Humanitas.

The paper describes the communication process of the selected hospital, and highlights the organizational-relational aspects that have emerged analyzing its planning process.

The empirical analysis was carried out through the explorative study of a case study (Yin, 1993). The choice of a case study is appropriate as it enables the researcher to investigate and identify, through definitions and explanations, how communication plan in health care is implemented within the context in which it occurs (Miles, Huberman 1994; Yin 1993, 2003).

In-depth interviews were carried out preliminarily to subsequent research. They enable the researcher to verify whether the elements pointed out by reference studies can be found in the enterprises analyzed in the present research as well.

This study uses the case study method according to Yin (1993), as far as the case study selection and sources triangulation are concerned, and the guidelines of Miles and Huberman (1994) when it comes to the analysis of gathered material.

Triangulation consists of employing combined data and information collection tools to deal with the study itself, thus making it possible to compare data coming from different sources of information and verifying their accuracy. Triangulation, therefore, increases the reliability of gathered data and enhances the constructs and hypothesis realized through the study (Eisenhardt, 1989).

The case study is based on Istituto Clinico Humanitas experience in health care communication. The company feature elements, which are relevant to the present explorative

study: it is a healthcare institution, it has a corporate communication department that responds directly to the CEO, and it plans annually the communication.

The triangulation of sources was carried out through the employment of different qualitative analysis tools. The primary information source was the in-depth interview: the prepared interview was followed in the meeting with the management of the corporate communication of Humanitas. The interview was held in April 2011 at the Humanitas Headquarter in Milan.

Together with the interview, newspaper articles, health communication materials realized by Humanitas corporate communication and information gathered from webpages were used to describe the process of planning communication.

Through this analysis the context in which the health institution operates and its communication planning process were recreated.

### **The case study: Istituto Clinico Humanitas, Milan.**

Humanitas is a flagship of five general hospitals in Italy accredited by the National Health Service for outpatient and inpatient services.

Istituto Clinico Humanitas is a private hospital, south of Milan, Italy, that has attained profitability while treating public system patients. The hospital was built and is managed by Techosp, a subsidiary of Techint, a global engineering and consulting firm. Techosp created a design and management system that emphasizes optimizing patient throughput and utilization of all of the hospital's facilities.

The company has subsequently acquired controlling interests in other important private hospitals in Bergamo, Turin, Catania and Castellanza, where the successful technology-based and patient oriented management model originally adopted in Istituto Clinico has been replicated. Humanitas continues to invest in new health and science facilities, consolidating its position as a foremost private health concern in Italy. For the past 10 years, Istituto Clinico Humanitas has been a teaching center for medicine, biotechnologies and nursing degrees thanks to an affiliation with the University of Milan. Since 2010, Humanitas also hosts the international track of the University of Milan School of Medicine.

The management model is based on a constant interaction between medical staff and managers to ensure high levels of quality and the maintenance of a humane, patient oriented approach in the delivery of health care.

Humanitas is also the holding company which at present includes the Istituto Clinico Humanitas (ICH) near Milan; the Humanitas Gavazzeni hospital in Bergamo; Cellini, one of Turin's major clinics; Humanitas Centro Catanese di Oncologia in Catania (Sicily); Humanitas Mater Domini in Castellanza (Varese). The Techint Group holds an 81% share of Humanitas.

Istituto Clinico Humanitas (ICH) is a 747 bed, tertiary care hospital located in the outskirts of Milan. The hospital, which combines specialized patient care with scientific research, graduate and post-graduate medical education, and staff training, offers all major clinical specializations, and the most advanced treatment as well as diagnostic services. Humanitas is the first Italian general hospital to obtain quality certification from the Joint Commission International.

Humanitas, which employs about 2,000 people - including 600 full time physicians and researchers, - has been recognized by the Ministry of Health as an Institute for Admission and Treatment of a Scientific Nature, and has become a teaching centre for degrees in Medicine, Biotechnologies and Nursing through an affiliation with the University of Milan. Since 2010, Humanitas also hosts the international track of the University of Milan School of Medicine with an innovative curriculum joining academics studies with experience in the hospital and

in the research labs. Since November 2010, ICH hosts the Humanitas Cancer Center dedicated to the investigation and the cure of cancer.

The mission of Humanitas is the constant improvement of the efficacy of treatment by means of basic and clinical research, innovative medical methods and investments in technology in order to guarantee increasingly higher quality standards of the services delivered. It allows to offer the population, specialized diagnostic and therapeutic services taking into account humanization in health assistance, managerial efficiency, innovation of scientific research, professional development of employees, teaching and training of healthcare professionals.

It provides more than 100,000 admissions over year, day hospital included. In 2008 the value of production was about 120,000,000 euros.

Since 1998 Istituto Clinico Humanitas has a corporate communication department to manage the demanding issues, which are emerging from the hospital challenges, and to achieve business objectives consistently with the mission of the hospital.

The corporate communication department works closely with top management and the other company departments to ensure it understands the dynamics of the organization and the information it needs to communicate.

The corporate communication plays a crucial role in the organization's success. It works on internal communications to facilitate communication inside the hospital organization and developing procedures for effective communication. Research of new communication tools for internal communication is an important activity. Current tools are House Organ, Intranet, bulletin boards, internal social events like i.e. the “welcome back day” dedicated to the mother coming back at work after having a baby, the Humanitas football cup, the Humanitas children day, professional events for nurses and physicians, on-line communication.

As regard the external communications, corporate communication plans and produces. i.e., campaigns for health improving and behavior changing, web contents, newsletters, brochures, on line communication.

Corporate communication team works also to improve relationships with shareholders by assisting other departments in communicating information with shareholders and stakeholders, and with media.

Here there is an overview of communication products realized in 2010: press office, i.e. press and press releases; publishing i.e. magazine, scientific report, educational, scientific events calendar, service charter in Italian and English; internal communication, i.e. HumanitasTime, Board HumanitasTime, intranet, photo contest, events internal communications, convention Humanitas, Humanitas Football Cup, Christmas Party, Humanitas Junior Day; Web communication, i.e. Humanitasalute.it, Newsletter Humanitasalute, Humanitas.it, Humanitas information about events and training, Humanitas.it for Research, Cancer Center, The Specialist, About Humanitas, Mimed.it; Institutional and events in the Milan area, i.e. Dating Health, Health days; Campaigns, i.e. 5x1000, antismoking.

Corporate communication is useful to allow Istituto Clinico Humanitas to be visible on newspapers, on TV, to give visibility to the doctors and their the activities, to maintain and enhance Humanitas corporate brand.

The whole communication activity starts with the communication planning process. The communication planning process of Istituto Clinico Humanitas is an organizational process because it allows the institution to understand deeply internal or external stakeholders, to identify people responsible for specific projects, to think the communication activities and channels, to define the timing of the project, to fix communication costs. The last point is important in health communication, because resources are scarce, as Istituto Clinico Humanitas is a health company which is not selective but is fully embedded within the National Health System. The hospital is a private hospital that carries out a public service. It



has to observe public rules having the economic logic of a private enterprise. All these aspects strongly affect communication and its planning process.

First of all, in Istituto Clinico Humanitas communication planning process means organization, motivation and optimal allocation of professional resources. It means being on time, allocating economic resources properly, and evaluating the achieved results.

Then, planning communication means relationship. In fact, communication planning process involves contacts with other internal functions, implicates external relationships, and helps to consider the corporate communication as a reference point for the whole institution so that managers and doctors are asking for communication products and visibility.

Planning communication in Istituto Clinico Humanitas means interacting constantly with the top management, who fixes the main communication drivers; it means collaborating with nurses and physicians and other employees. All of them have a rich and sophisticated professional culture and have a leadership characterized by a strong professionalism. Planning communication is a process in which practitioners listen and understand what the priorities are, draw the design of what communication will be year by year.

Planning corporate communication for healthcare means to manage emergency, crisis, and to be ready for thinking activities to be invented time to time, to have an extra-budget to organize the necessary activities.

The communication planning process starts at the end of each year with the preparation of a draft plan, which is already the result of informal meetings and audits. The draft plan takes into account those activities that are repeated every year.

Early in the new year, a meeting is held between the communication manager and the top management, President and CEO, of the Istituto Clinico Humanitas. The meeting is held after listening to the communication needs of the hospital health department because it is important to collect information about the very important challenges that they will face over the year. During the meeting, taking in account the specific internal and external context, the company strategic objectives are planned out and the stakeholders are identified. Main stakeholders are: top management, national and local newspapers and magazines, physicians, institutions, family doctors, internal public, journalists, patients, citizens. Every communication activity involves one or more of these stakeholders. It is also allocated the budget.

The corporate communication manager defines SMART communication objectives to facilitate the company in achieving strategic objectives, decides for communication activities, tools, and project leader, draws up the timetable, defines the evaluation system and sets costs of planned communication activities. Then plan is formally discussed and the budget is fixed.

The communication plan is realized. In this phase is important to control costs and timing and to monitor the plan progress.

The last phase of planning process is the evaluation. The corporate communication team writes a report that highlights and describes the activities carried out over the year, including any managed crisis. The report is also a benchmark with the major Italian hospitals and it evaluates the work of the whole communication team. The performances are evaluated according to specific indicators, such as respect of timing and cost, saving, time consuming, statistics, mistakes.

The report is sent to the top management who reviews the achieved results, shares with the Corporate Communication Manager its comment and suggestions to be taken into account for the new communication planning process.

### **Discussion of results and managerial implications**

The case study of Istituto Clinico Humanitas has highlighted the communication planning process in a health care institutions. Through the rebuilding of the communication planning

process Istituto Clinico Humanitas, the case study has singled out the main features of the process.

As regard the planning model Istituto Clinico Humanitas seems to adopt the organizational and relational model: the presence of the roles of client and supplier, the articulation of the process into phases and, the adoption of a relational logic are typical features of the abovementioned framework.

Top management of the hospital represents the customer who defines the mission, strategic objectives in line with the mission, and the communication budget.

The supplier is the Corporate Communication Manager who operates in close relationship with top management, health department and the chief physicians of the different hospital specialties.

The communication planning process is divided into several phases, which could be analyzed through the four-phase of organizational and relational model.

Exploring is the phase in which top management fixes the strategic objectives taking into account the context analysis, the stakeholders analysis, and the communication needs. At the end of the exploring, the Corporate Communication Manager is legitimated to draw up the communication plan.

Setting is the stage in which objectives, strategies, and initiatives to be implemented are negotiated and in which the involved roles are identified and the budget allocated. At the end of this phase the communication plan is submitted to for top management approval.

Acting is the step in which then plan is realized control costs and timing are controlled and the plan progress is monitored.

Valuing is the step in which the results and communication performances are evaluated. This phase also includes a benchmark with the communication performances of the major Italian hospitals.

The success key factors in the communication planning process of Istituto Clinico Humanitas are on the one hand, the constant interaction with the top management who gives the strategic priorities, and the main drivers for planning; on the other hand, the careful attention paid to all workers to understand their needs and engage them in specific activities. Further important points are the mutual commitments between people involved, the building of consensus and sharing with people who work together to achieve the company goals.

These factors suggest that the communication planning process in Istituto Clinico Humanitas is a managerial process based on an organizational and relational model.

With reference to the initial research question all above mentioned elements suggest that Communication Planning is a valuable strategic process in Health Care organizations.

The difficulties to plan and then realize communication in health context are huge, communication must to be authoritative, has to deal with different interests that could be in conflict each other, and has to deal with crises. So it is very important to plan and be ready to face ordinary and extraordinary situations and to create the right organizational mood to preserve the integrity of ill people and generally of those who come in contact with the hospital.

The communication plan of Istituto Clinico Humanitas is tailor-made. It has to take into account three cores that characterize Istituto Clinico Humanitas: the clinical, the research, and the teaching. The corporate communication has to serve in the best manner each of these clients and consider that the hospital is positioned differently than the others.

The corporate communication department of Istituto Clinico Humanitas goes beyond the duties prescribed by the law. In Istituto Clinico Humanitas the top management and the corporate communication team are involved to establish goals, strategic objectives to be realized over the year to improve the supply of services to citizens, to improve internal

relationships, to enhance the image, and increase and spread confidence between stakeholders taking into account ethical values.

The case study suggests that the most appropriate model to describe the strategic process of communication in healthcare seems to be the organizational and relational ones.

This is probably because of the essence of the health activity implies a strong relation between suppliers and consumers i.e. patients.

The communication planning process allows the promotion of cooperation and commitment, share knowledge, increase confidence and create the right atmosphere, and to take the right decision at the right moment. This is why healthcare managers and practitioners would have to consider communication planning as a strategic process and not only an operative procedure.

It would be desirable that the communication planning process was more widespread.

## References

- Airoldi G., Brunetta G., Coda V., (1989), *Lezioni di economia aziendale*, il Mulino, Bologna.
- Austin J. L., (1976), *How To Do Things With Words*, Oxford University Press, New York.
- Bartholomew L. K., Parcel G. S., Kok G., Gottlieb N. H., (2011), *Planning Health Promotion Programs*, Wiley, New York.
- Collesei U., Ravà V., a cura di, (2008), *La comunicazione d'azienda*, Isedi, Torino.
- Corcoran N., (2011), *Working on health communication*, Sage, London.
- Douglas J. Lloyd C., Siddell M., (2007), "Using research to plan multi-disciplinary public health intervention", in Earle S., Lloyd C., Sidell M., Spurr S., (2007), *Theory and Research in Promoting Public Health*, Sage, London.
- Drucker P., (1954), *The Practice of Management*, Harper & Row, New York.
- Esposito A., (2010), "Web-communication in healthcare. A comparison between an Italian and U.S. experience. A preliminary study", in *Proceeding of the 13th Toulon-Verona Conference*, 2-4 September 2010 Coimbra.
- Freimuth V.S., Quinn S.C., (2004), "The contributions of health communication to eliminating health disparities", *American Journal of Public Health*, vol. 94, n. 12.
- Green L.W., Kreuter M.W., (2005), *Health promotion planning: an educational and ecological approach*, McGraw-Hill, London.
- Gregory A. (2000), *Planning and Managing Public Relations Campaigns*, Kogan Page, London.
- Gregory A. (2009). "Public Relations as Planned Communication", in Tench R., Yeomans L., a cura di, *Exploring Public Relations*, Prentice Hall, Harlow.
- Guth D.W., Marsh C., (2000), *Public relations: A values-driven approach*, Allyn & Bacon, Boston.
- Hallhan K., (2001), The Dynamics of Issues Activation and Response: An Issues Processes Model, in *Journal of Public Relations Research*, vol. 13, n. 1.
- Invernizzi E. (2000), *La comunicazione organizzativa. Teorie, modelli e metodi*, Giuffrè, Milano.
- Kahan B., Goodstadt M., (2002), *IDM Manual: IDM Manual for using the Interactive Domain Model approach to best practices in health promotion*, Centre for Health Promotion, Toronto.
- Kotler P., Shalowitz J., Stevens R.J., Turchetti G., (2010), *Marketing per la sanità*, McGraw-Hill, Milano.
- Lindemann W.K., (1997), Setting Minimum Standards for Measuring Public Relations Effectiveness, *Public Relations Review*, vol. 23, n. 4.

- Mazzei A. Esposito A., (2010), "Il piano di comunicazione tra logica analitico-razionale e organizzativo relazionale", in Mazzei, A. (a cura di) *Comunicazione d'impresa. Contributi concettuali e gestionali*, Edizioni Unicopli, Milano.
- Mazzei A., (2001), "Le tecniche e i metodi dell'ascolto organizzato", in Invernizzi E., (a cura di), *Manuale di Relazioni pubbliche. Le competenze di base*, McGraw-Hill, Milano.
- Mazzei A., (2007), (a cura di), *Comunicazione d'impresa. Contributi concettuali e gestionali*. Edizioni Cuesp, Milano.
- Medina-Mora R., Winograd T., Flores R., Flores F, (1992), "The Action Workflow Approach to Workflow Management Technology", in Turner J., Kraut R., a cura di, *Proceedings of the Conference on Computer-Supported Cooperative Work*, ACM Press, CSCW'92.
- Miles M. B., Huberman M.A., (1994), *Qualitative Data Analysis - An Expanded Sourcebook*, Sage Publication, Thousand Oaks.
- Muzi Falconi T., (2002), *Governare le relazioni. Obiettivi, strumenti e modelli delle relazioni pubbliche*, Il Sole 24 Ore, Milano.
- National Social Marketing Council, (2006b), *Using social marketing as specified planned process. The "total process planned model"*, NMSC, London, available at: [www.nmscentre.org.uk](http://www.nmscentre.org.uk).
- Pastore A., Vernuccio M. (2008), *Impresa e comunicazione*, Apogeo, Milano.
- Riel C.B.M. van, (1995), *Principles of Corporate Communication*, Prentice Hall, London.
- Rispoli M., (1984), (a cura di), *L'impresa industriale. Economia, tecnologia, management*, II Mulino, Bologna.
- Rolando S., (2010), *Economia e gestione della comunicazione nelle organizzazioni complesse. Gli ambiti di convergenza tra comunicazione di impresa e comunicazione pubblica*, Cedam, Padova.
- Rolando S., (2011), *Teoria e tecniche della comunicazione pubblica*, Rizzoli, Milano.
- Searle J. R., (1969), *Speech Acts: An Essay in the Philosophy of Language*, Cambridge University Press, Cambridge, England.
- Smith R., (2009), *Strategic Planning for Public Relations*, Routledge, New York.
- Vecchiato G., (2008), *Manuale operativo di relazioni pubbliche*, FrancoAngeli, Milano.
- Vescovi T., (2008), *Piano di marketing*, Il Sole 24 Ore, Milano.
- Wilson L.J., Ogden J.D., (2008), *Strategic Communications Planning*, Kendall Hunt Publishing Company, Dubuque IA.
- Yin R.K., (1993), *Application of Case Study Research*, Sage Publications, Thousand Oaks.
- Yin R.K., (1994), *Case Study Research: Design and Methods*, Sage Publications, Thousand Oaks.

# Professional Identity and the Psycho-Social Contract: The ideological link to commitment

João Fontes da Costa<sup>a</sup>  
Teresa Carla Oliveira<sup>b</sup>

<sup>a</sup>joao.costa@estgoh.ipc.pt

<sup>b</sup>tcarla@fe.uc.pt

## Abstract

Professional norms and status related aspects are an upper individual and extra organizational conception that does not enter directly in many previous theoretical approaches. Social contractualization of a profession shapes individual knowledge or beliefs about the social matrix in which employment relations are built.

We found that when there is a fit between (what the employee believes is) the organizational and the employee view of the professional identity there is a propensity for a bigger identification with the organization. Professional identity patterns appear irreducible in organizational contexts where organizational identities are less salient, acting as the lowest common denominator in a supplementary regime.

Using a (profession) case-study methodology (Hamel, Dufour et al., 1993; Yin, 1993; Yin, 1994; Stake, 1995; Bryman e Cramer, 2003; Stake, 2005) with a qualitative content analysis of the interviews of 50 Pharmacists, we emphasize the social constructive nature of the observed concepts. Validation of the aprioristic model was rigorously scrutinized by Grounded Theory principles (Glaser and Strauss, 1967).

**Keywords:** Identity, Psycho-social Contract

## Introduction

Using an extensive literature review and exploratory interviews we intend to provide a theoretical model that incorporates professional identity in the employment relationship as a possibly important determinant of the perceived delivery of the psychological contract, mediated by a social contractualization dimension with a regulative or normative character. Employment relationships are developed from macro-social levels and social contract perceptions define beliefs concerning the preferred or ideal terms of contract [2, 3]. Can social contract and namely its professional identity and role definition traits impact the perception of the delivery of the deal in psychological contracts?

Occidental societies tend to see careers as an individualized Project (careers as action or agency); however, contextual influences in individual choices are explicit or implicit in people's narratives [4, pp. 234]. Facing a specific employment relationship we develop beliefs about mutual obligations between employer and employee that can,

or not, offer alignment between the social contract and the psychological contract [3, 5]. Nonetheless, even assuming that social contract and psychological contract are two distinct conceptual entities in literature there are few empirical studies addressing this particular issue. Employees are impotent on selecting much of their work features and psychological contracts can be driven more by context related contingencies than individual control perceptions [3]. We studied the Pharmacists professional identity relating it to the delivery of the deal derived from the psychological contract. As written by Denise Rousseau social contracts are not based on promises but they influence how promises are interpreted and its norms affect the very nature of the promises [2, pp. 14]. Edwards & Karau indicate the need to investigate the consequences of discrepancies between the social bounded terms of the contract and the known terms of the psychological contract that can contribute to job dissatisfaction, absenteeism, turnover or reduced organizational citizenship behaviours [3].

Studies dealing with the potential role of identity in organizational identification do not emphasize the social categories associated with the occupation, describing the congruence, or lack thereof, of values, concepts and characteristics (demographic or otherwise), not anchored in the professional normative. Assuming that the psychological contract may have variations related to national culture, we assume the relevance of contextual variables that are at least implied, and that may stand out through comparison of differences or violation of assumptions. Several examples are described in literature as the ones presented in "Psychological Contracts in Employment: Cross-National Perspectives," edited by Denise Rousseau and René Schalk [6]. We consider that the social level of analysis should be further included in every modelling of the employment relationship [e.g. 7].

Social identification in social settings is of the utmost importance. The social contract for a profession influences the psychological contract, yet we are not in the sphere of social contract as it is commonly understood that is the individual's relationship with the social matrix, but rather to its impact on specific employment relationships. Clarifying, we intend to publicize the existence or absence of an imposing normative social impact of the employment relationship elucidating its importance in the employment relationship context. We integrate the occupational focus of identification (in identifying) with the organization, verifying its impacts on the psychological contract.

We aim to take a step further in exploring the contours of identity and identification and its relations with career choices in organizations and contribute, hopefully, for the study of factors that although atavistic are not always knowable. This is not a study in the wake of the Sociology or Psychology of Occupations; it is rather an exploratory oriented reflection in the field of Human Resource Management, illuminated by several scientific paradigms and explanatory currents. We can question the role of managers on determining careers taking them as a prominent element in the construction of organizational morphologies based on their vision, values, legal corsets, environmental constraints or other contingencies. Michael Brocklehurst focuses the notion of a career without boundaries in the discussion of identity, questioning the extent to which the sense of space is important in establishing the sense of self [8]. The relationship between individuals and institutions is critical to the understanding of careers, which are both its expression and its best lenses, refocusing neoinstitutionalism [9]. Research on careers provides a bridge between the micro and macro levels of

analysis and becomes an intellectual anchor for phenomena such as entrepreneurship, occupational changes, among others [9]. The understanding of careers and their management is critical in two dimensions: i) it can help individuals manage their careers more efficiently and ii) organizations can benefit from understanding the career decisions and dilemmas that their employees face [10, pp. 13].

### **Procedures for Collecting Data**

Using a (profession) case-study methodology with a qualitative content analysis of the interviews to Pharmacists, we emphasized the social constructive nature of the observed concepts. The validation of the aprioristic and *post-hoc* model was rigorously scrutinized by Grounded Theory principles [11]. We try to perceive the importance of these ideas in one of the relevant dimensions of the social contract, professional identity and the role of the Pharmacist. The use of an inductive model does not oblige to the development of a body of hypotheses that would certainly direct this study for the search of causality nexuses. Nevertheless we have defined a main research question: What is the relation between professional identity and social contract and psychological contract? Case study methodology is an essential form of research within social sciences and is supported by extensive bibliographic references [e.g. 12, 13-17]. It is more than a methodology, in spite of this universal acknowledgment as it delimitates the field of study rather than just presenting a set of tools or techniques. Regardless of the methodologies we decide to study a specific case, and the scope is centred on what we can learn from it [17]. Measuring and discovering causality nexuses between variables misses the discovery of the nexuses between the processes thus taking qualitative methodology to excel in key dimensions as in the approach of the subject and his thought [18]. Regardless of the risk of academic centrifugation by conservative minds such as reported by Greenwood and Levin [19] we feel that according to the proposed objectives this methodological choice comes naturally. Content analysis is a technique used for an objective and systematic description. However objective the intention is we can never oversee the subjectivity of the process. We have been sensitive to the need of a profound critical thought knowing that there are not final, monolithic and authoritarian meanings when research relies on case studies [20]. The clear identification of these ideas is, as referred by Caroline Clark et al. [21], the equivalent of giving the audience of a puppet show the possibility to see some of the strings attached.

We considered the micro level of analysis, the individual level, including perceptions and attitudes, understood in the context of the social integration within the organization. The set of identities and identifications is the concrete unit of study. It is the attitude that we are after whatever behaviours are really objectified. We do not seek evidence of attitudinal determinism but the mapping of attitudes in their various components therefore not validating, because this is not our goal, their explanatory power on behaviours. The findings will be evaluated solely as assumption for pre-behaviours. We used the semi-directive and semi-structured interview, assessing a pre-defined model and collecting data using a pro-iterative process of theory construction. The interview is a useful, specific and widely approved data collection tool for the exploration of daily life specifically on identity studies. Each interview lasted from 45 to 90 minutes, fully recorded. More than a script we defined objectives and discussion topics which have powered the relevant information for a review of theoretical and conceptual thread, based on the perceptions of the actors. All questions were designed

in order to allow respondents to speak generally of the proposed topics. Content analysis was implemented with the use of MAXQDA© 2007.

## **Results**

Employment relationships are developed from macro-social levels and social contract perceptions define beliefs about the preferred or ideal social contract [2, 3]. The future of employment relationships is, in the employee's perspective, impacted by previous experiences or by social and economic dynamics, increasing or decreasing expectations [3, 5]. Literature has failed to deliver proposals for effective measures of the assumed conceptual separation of the social and psychological contract. The posthumous work of John C. Edwards with Steven Karau [3] sought to develop a discriminative scale. In this sense they differentiated the general perceptions of a proper employment relationship (social contract) and a separate and distinct perception of employer's promises and obligations (psychological contract). There are two separate but coexisting foci, and when an analysis of the employment relationship is particularized there may be readjustments, justified and justifiable for the individual and that, in practice, offers no contradictions capable of creating cognitive dissonance.

Since employees can not select many of the characteristics of their work, perceptions of the psychological contract may be caused more by situational constraints than by individual perceptions of control [3]. The contextual organization is assumed as a social category of extreme importance in the formation of individual self-concept, positioning itself centrally in the identification process. The organizational identification is one of the dimensions of individuals' identity, superior in the making of the self-concept on personal identity and other social dimensions. However, the multiplicity of possible partial identifications with different social categories requires the aggregation of the overall concept in organizational identification, being occasionally emphasized the identification with a specific function or role in the concept of instrumental commitment. There will be a tendency for individuals to adopt standards, mannerisms, attitudes and social rituals as a means of inclusion and allowing space for the desired performance of social roles [21].

### **Professions and Careers**

Do we choose professions or careers, or both? When career paths are preceded by mandatory academic training we can picture substantially different scenarios from those of professions with less conditioned access. It seems clear that professions accessed by a specific and highly State regulated study plan, as in the case of health (e.g. pharmacy, medicine and nursing), necessarily differ from other less regulated accesses and multiple routes of entry. The choice of medicine or pharmacy is enforced in the selection of appropriate and mandatory training, albeit subjectively that decision could have been taken before. The profession is defined as a psychological group, beyond the terms of Turner et al. [22], characterized as a collection of individuals sharing the same social identification or defining themselves as members of the same social category. Identification with the organization is mediated by extra-organizational, institutional based factors, as the identity that individuals expect to role-play. In a study involving teachers, Rolf Van Dick et al. verified that there is a greater identification with the school when it corresponds to the "school type" that individuals believe to be better and that the identification with the professional group increases when it is compared to others [23]. The saliency of a social identity category is a continuous



variable depending largely on the interaction of the accessibility and suitability of a particular circumstance [23]. One category becomes more salient when the individual believes in its importance, which could happen by contextual stimulation; when introducing the conversation topic of comparative identity between professional groups we activate the saliency and enhance intra-group identification [23]. Particular organizational identities (within a normative sense) are built in a political arena and promoted by discourse [21]. We found that when there is a fit between (what the employee believes is) the organizational and the employee views of the professional identity there is a propensity for a bigger identification with the organization. We found that professional identity patterns appear as irreducible in organizational contexts where organizational identities are less salient, acting as the lowest common denominator in a supplementary regime. Occupational socialization rhetorics represent a set of modular frontiers for social and occupational roles and for carrier paths as well. Collin and Young [24] refer that the new carrier rhetoric is about flexibility, autonomy and self-determination, ending shared standards. Our position differs as we say that there are fundamental standards in the enactment of professions, embodied in identity normatives that have impact on both psychological contracts and career choices. It is expected that members of a profession develop a professional identity; this being one of the notions commonly accepted by scholars providing the separation between professions from other occupations [25, pp. 17]. The knowledge and skills important for professional practice are necessary but not sufficient conditions for professional success, favouring the need for a strong professional identity in order for an individual to behave with the authority, trust, and conduct that would convince others of his/her competence [25, pp. 29]. In health professions this structural functionalist vision, though criticized in its monolithic and reified essence of roles and identities and its *quasi* passive and nihilistic notion of prospective members may take on even more relevance.

A profession has some distinctive features, including a code of ethics, a standardized education and criteria for certification with a recognized professional association and the monopoly of a specific labour market by regulating the entry of members [26]. The image is vital to replace the ambiguities of the functional contents and individual knowledge as well as the subjective recognition of their capabilities by the evaluators and peers [26]. These issues are fundamental in the socialization logic. The concept of identity regulation defines the process for standards production by which employees are expected to govern themselves and those may be of various types: identification with the organization as an institution, cultural control, standardization and subjectification [26]. This takes the ability to generate a greater identification with a specific job since the fit is produced on individual needs [26].

The motivations for choosing a career in pharmacy have been widely studied and several papers suggest interesting lines of study, indicating different impacts in different races or ethnic groups [27], indicating interactions between attitudinal traits, ethnicity, academic factors and family influences [28], emphasizing status and career prospects [29] or factors such as self-employment and wage conditions apart from the love for science and for interpersonal relationships [30]. Profuse are the studies dealing with career aspirations and prospects for professional access by Pharmacy students like Syracuse et al revealing that most students have a Career Guidance for "direct care to patients" albeit they are concerned that this is not the reality of the retail Pharmacy [31]; the perception of a patient care related career is comparable to other professional sub-cultures such as nursing and medicine [32]. The altruistic intentions are mentioned, in

self-report as one of the most prominent factors for career choice, being scientific factors, employability and the possibility of self-employment in the following line of consideration [33]. Choosing the Pharmaceutical Sciences course often comes as a second choice for Medicine, cases where professional access is not gained by identification with the Pharmacist profession. Accesses to other professions are made by identification with the professional and then choosing the appropriate training. For a relevant part of the practicing pharmacists (27 out of 50 in our sample: 54%) the entry process starts from a second choice and professional identification comes after. The meaning of being professional is an important discursive construction, making the individual often unique and valuable, supporting his/hers assumptions on occupational, organizational and societal expectations [21]. The importance of professional identity is felt after the professional access, informed by means of access, more or less ritualized, and the activities of regulators, including the Professional Associations. If we do not consider a career as a journey, including access to mandatory training, we will not realize when professional identity becomes relevant. For students taking Pharmacy and Pharmaceutical Sciences we defined two profiles: i) those who integrated the result, because it was an effective choice, though not the first or as a reaction to frustration and ii) those who actively sought to change course and failed or those that upon completion of studies in pharmacy entered other courses.

Careers help understanding how change and stability occur in an organization. Institutions are characterized by relative permanence, and they include sets of behaviours or formal standards of individuals in complementary functions [9]. Institutions are reproduced in careers, and institutions can also be changed with the careers, when individuals alter occupational roles or role sequences in the organization [9]. Institutions identify the form of social construction of knowledge and its translation in places by individuals [9]. Institutions and individuals are interdependent, as noted by Scott [34]. Neo-institutional theory in sociology has inputs from cognitive and cultural theories [34]. Cognitive psychologists have wavered between the view of the individual as a competent and rational being and a view with limitations for rationality and its biases [34, pp. 38]. Today sociologists also claim the non-passivity of the individual in relation to contextual factors, social systems and roles, as stated by Identity Theories [34]. Careers as properties capture the social knowledge of how things work or should work, linked to roles and relationships of roles, such as institutional logics, divisions in labour and including the identities, mechanisms of governance and guiding behaviours in a particular institutional context [9]. Careers have the characteristic of staging roles and role relationships in organizations and occupations [9]. Institutional processes encode or dissociate the social knowledge of roles and role relationships through processes of habitualization, objectification, sedimentation and deinstitutionalization [9]. Objectification occurs when knowledge of social roles and role relations turns into social facts, collectively shared, facilitating its survival across generations [9, quoting 35]. The sedimentation implies that roles and relationships between roles are taken for granted; however, sequences of events can trigger deinstitutionalization, providing new visions for the same issues.

### **Psychological Contract**

The psychological contract is defined as the perception of obligations between the individual and the employer as a result of a reciprocal exchange situation [2, 36-38]. The formation of the psychological contract involves two sets of factors: i) the organizational ones such as the institutional messages and social cues from peers and

working groups and ii) the individual ones such as the interpretations, predispositions, cognitive constructions, career motivations and references [2, 38]. A psychological contract is formed when individuals infer promises that generate beliefs regarding reciprocal obligations [38].

Denise Rousseau established a tripartite typology for the psychological contract, distinguishing different sources: i) standard, ii) based on position, and iii) idiosyncratic [39]. The standard psychological contract points to the coercive interference of institutional principles (legal and negotiated natures). The psychological contracts based on position, though characteristic of an organization, can be informed by the social normative for the profession. For example, one can say that at the transactional level it is consensual that a senior manager has perks like car and mobile phone. This perception will be considered in the analysis of a particular employment relationship, and may be a way for status legitimation. As said by David Guest, the growing of contracts with idiosyncratic dimensions instead of the standard dimensions creates ample space for violations and breaches by the complexity of expectations [7]. The psychological contract incorporates aprioristic dimensions, which are independent of any employment relationship however present, thus influencing notoriously and decisively the notion of compliance. We believe that the social level is under-represented in most of the models and the Self, within the cognitive paradigm, is more represented than the social structure. The role of institutions in creating and defining the identity and the orientation for life paths, including careers, is not fully understood. Another no less relevant dimension is the alternate identities and the replicability of the contract, which will determine attitudinal and behavioural consequences not negligible in the reading of the psychological contract and alternatives for action. The psychological contract is formed of explicit promises, implied or inferred, but also of expectations developed in the continuity of the employment relationship. It is limited to an employment situation with a specific employer. The social contract is defined as a set of assumptions and rules for a wide range of employment situations. Thus, we find that an action that is believed to be a violation of an idiosyncratic psychological contract may be in conformity with a social contract. But breaks or breaches in the social contract may in fact impact the employer-employee relationship. In the wake of the fit theories between individual and organization Bocchino et al. [40] argue that the existence of a greater congruence of values between individual and organization will lead to lower perceptions of psychological contract breach. This is particularly significant and can be tested in the congruence of values associated with visions of organization and employee as regards to the professional identity.

### **Social Contract**

Denise Rousseau defines the social contract as a set of pervasive taken for granted beliefs regarding obligations within a society [2, 41]. Morrison and Robinson define it as the assumptions, norms and beliefs about appropriate behaviours in a social unit [42]. Thus we realize the importance of the social contract in the definition of roles and roles relationships in different contexts, including that of the employment relationship. While some authors have reported the existence of a new psychological contract under the understanding that employment relationships are changing and that their prevalence is different from other temporal moments of our economic history, they implicitly refer a new social contract model for the employment relationships. In fact, taken the psychological contract as a reading of the obligations and expectations of an employment relationship in particular, and considering that a reinterpretation of these

authors words is not an abuse we can say that a change in the view of the employment situations in a general way refers to a new social contract that influences the psychological contracts. Employment relationships incorporate these concepts socially accepted. Denise Rousseau says that although not based on promises, the social contract influences how the promises are interpreted and its rules affect the nature and interpretation of promises [2, pp. 14]. Social contracts are a background for the interpretation of promises and represent the differences in employment relationship in several countries [2].

The profession is based on a set of tacit and explicit beliefs shared between pharmacists and patients on a community pharmacy, for example, regulating mutual expectations and determining the contours of the social contract that defines the profession. Professional labelling is a mechanism for remote control in the sense that it constructs on the job identities and appropriate behaviours [43].

### **Professional Identities and the Process of Identification**

Identity is a fundamental topic for individuals in organizations, and the existence of irreconcilable differences between the identity promoted by management and that endorsed by the employees can lead to a polarization with powerful effects in the sense of who the individual is and what he/she stands for [44]. Identity formation has a performance based element, built on Goffman's concept of social encounters in which individuals behave in order to enact who they are in an interactive way [45]. Professionals can find stability in an ambiguous environment using anchors of identity as being expert or being different [45]. Representations (physical, symbolic, verbal, textual and behavioural) become imbued with meaning and are taken as part of identity [45]. Personal identity has two dimensions: i) regulation (the discursive practices of identity definition) and ii) identity production (interpretative activities involved in the reproduction of personal identity) [45]. The regulatory aspects are seen as a form of normative control operating an attempt to compromise the worker with the organization through identification, although subversion or resistance is possible [45]. In the definition of a social identity individuals tend to use images that combine more relevantly with their work organizations [44, 46, 47]. The result of this process binds self-esteem to the identity of the organization (including its external image), leading to different results in behaviour if the individual is identified or deidentified with that identity [44, 46, 48-50]. The relationship between subjective perception of identity (individual) and the identity promulgated by (top) management can cause problems of identification [44, 47].

Norms, such as professional ones, are relevant for identity. They configure a supra-individual and extra-organizational conception that does not enter directly in the previous theoretical models. They provide a space for identity and identification with the analysis of the impact of psychological contract fulfilment that is not properly researched. Even when we consider the individual level they arise from an external identity and function as an autonomous centre for identification. Normative change is deeply linked to professionalization, understandable as a collective effort by members of a profession in defining conditions and work methods and establishing a knowledge base for their legitimate occupational autonomy [51]. Occupations suffer the same pressures that organizations do, and different professionals search differentiation in spite of the existing similarities. In fact, organizations lack the ability to determine identities, and their employees are not always swayed by their workplace and can

challenge and ridicule the identities prescribed, creating their own psychological and social spaces through camaraderie and humour, counter-narratives, irony and cynicism [21]. Within the organization individuals and groups have considerable freedom in creating their reality, yet often shaped by the social discourses available [44]. This impact of pre-formatted logical meanings as social conventions, community scrutiny and legal norms is felt in the narratives about individual or collective identity [44]. Identity is an interactive storytelling process equivalent to the writing of ones' history, seeing it be written by others and registering ourselves in the stories of others [52, 53]. On the other hand it is a process of absorption and customization of a larger narrative, albeit constrained by the structure of narratives alive [45]. The meaning of the narratives is relativized by the position of the individual in the organization, assuming the importance of perspective [54].

## Proposed Model

A model incorporating the findings is proposed inspired by David Guest's model on psychological contract in employment relationship in the contextual and background variables and the outcomes [7] yet assuming an important role of professional identity in the evaluation of the delivery of the deal. The concept of contract replicability is also integrated as proposed by Ng et al. supporting explicit references to an organizational exit barrier [55]. Other references are implicit or explicitly included as are those previously referred in the above text. Organizational identification is dependent on the perception of the encounter between professional identity, itself a product of the social contract and other normatives, and the enactment of that identity in a specific organization.

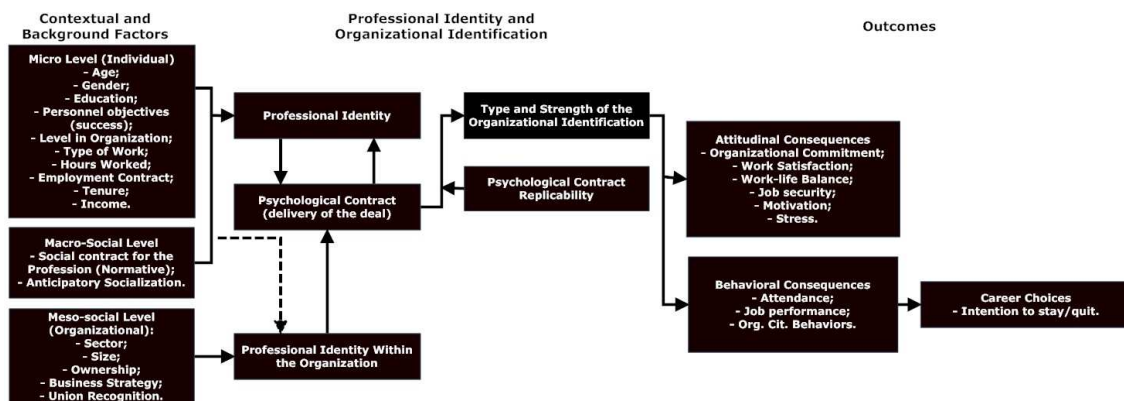


Figure 1. Professional Identity, Psychological and Social Contract and Attitudinal and Behavioural outcomes

## Conclusions

An individual's professional identity is impacted by institutional references and that effect is felt upon the view of the psychological contract. Professional norms and status related aspects are an upper individual and extra organizational conception that does not enter directly in many previous theoretical approaches. They convey an identity and identification forum with direct, however implicit, impacts in the perception of the delivery of the psychological contract. Social contractualization of a profession shapes individual knowledge or beliefs about the social matrix in which employment relationships are built. The pharmaceutical profession is based upon tacit and implicit beliefs about behaviours and roles shared both by pharmacists and their publics, regulating mutual expectations and determining the contours of the social

contract. The profession can be defined as a psychological group extrapolating Turner's terms [22]; a set of individuals sharing the same social identification or defining themselves as members of the same social category. Identification with the organization is mediated by extra-organizational factors institutionally based, such as professional identities. The salience of a social category is a continuous variable and depends largely on the interaction of the accessibility and adequacy of a certain circumstance [23]. The majority of studies on identities and identification does not stress occupational social categories, instead it describes the congruence, or its absence, of values, concepts and characteristics (demographic or other) not anchored in professional normatives. The standard of professional identity, which legitimizes individuals in their occupations, has an irreducible nature. The rhetoric of occupational socialization represents a set of borders, attributed to, firstly, the social and occupational roles and, secondly, their own career paths. Collin and Young [24] report that the new rhetoric of career is about flexibility, autonomy and self-determination, and there are no longer shared standards. Our position is inconsistent with theirs, asserting the existence of basic standards in reading the route of the profession, embodied in the normative professional identity.

### **International and Managerial Implications**

Employees experiencing incongruence between their social contract and psychological contract perceptions are more likely to consider a poor delivery on the psychological contract. This articulation between social contract and psychological contract should be considered for the evaluation of psychological contracts and related outcomes. This is particularly important in assessing person-organization fit and could lead to an inclusion or further assessment between perceived identities on recruitment, job distribution and other related aspects. Managers should include the professional identity topic when evaluating expectations and perceptions, finding possible incongruences that could peril the employment relationship. In fact, employment relationship models for professionals are potentially different in nature, integrating professional institutionalization aspects. Organizations that have in mind that an employee perspective on the social contract could impact on its psychological contract assessment can prevent, or at least foresee, disruptions and a number of perceived breaches or violations.

### **Limitations and Future Research**

The model and its conceptual relations should be tested in other contexts. This study was centred in the pharmaceutical sector and other sectors should be compared, although with professions as in this conceptualization. More testing should be done considering different approaches either more quantitative or mixed in order to shed light on the causal relations between professional identities and social contract and psychological contract.

### **References**

1. Arthur, M. and B.S. Lawrence, *Perspectives on environment and career: An introduction*. Journal of Occupational Behaviour, 1984. 5(1): p. 1-8.
2. Rousseau, D.M., *Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements*. 1995, Thousand Oaks: Sage, Publications Inc.

3. Edwards, J.C. and S.J. Karau, *Psychological Contract or Social Contract? Development of the Employment Contracts Scale*. Journal of Leadership & Organizational Studies (Baker College), 2007. **13**(3): p. 67-78.
4. Inkson, K., *Understanding careers: the metaphors of working lives*. 2007, Thousand Oaks, California: Sage Publications, Inc.
5. Kanter, R.M., *When Giants Learn to Dance: Mastering the Challenges of Strategy, Management and Careers in the 1990's* 1989, London: Unwin.
6. Rousseau, D.M. and S. René, *Psychological contracts in employment: cross-national perspectives* 2000, Thousand Oaks: Sage, Publications, Inc.
7. Guest, D.E., *The Psychology of the Employment Relationship: An Analysis Based on the Psychological Contract*. Applied Psychology: An International Review, 2004. **53**(4): p. 541-555.
8. Brocklehurst, M., *Self and place: a critique of the boundaryless career*, in *Critical Management Studies Conference*, U.o. Lancaster, Editor. 2003: Lancaster.
9. Jones, C. and M.B. Dunn, *Careers and Institutions: The Centrality of Careers to Organizational Studies*, in *Handbook of Career Studies*, H. Gunz and M. Peiperl, Editors. 2007, SAGE Publications: Thousand Oaks.
10. Greenhaus, J.H., G.A. Callanan, and V.M. Godshalk, *Career Management* 4th ed. 2010, Thousand Oaks: Sage Publications, Inc.
11. Glaser, B. and A. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research*. 1967, New York: Aldine.
12. Yin, R.K., *Applications of Case Study Research*. Applied Social Research Methods Series. Vol. 34. 1993, Newberry Park, California: Sage Publications, Inc. 131.
13. Yin, R.K., *Case Study Research, Design an Methods*. Second ed. Applied Social Research Methods Series. Vol. 5. 1994, Thousand Oaks: Sage Publications, Inc. 171.
14. Stake, R.E., *The Art of Case Study Research*. 1995, Thousand Oaks: Sage Publications, Inc. 175.
15. Hamel, J., S. Dufour, and D. Fortin, *Case Study Methods*. Qualitative Research Methods Series. Vol. 32. 1993, Thousand Oaks: Sage, Publications, Inc. 77.
16. Bryman, A. and D. Cramer, *Business Research Methods*. Second ed. 2003, Oxford: Oxford University Press. 786.
17. Stake, R.E., *Qualitative Case Studies*, in *The Sage Handbook of Qualitative Research*, N.K. Denzin and Y.S. Lincoln, Editors. 2005, Sage Publications, Inc.: Thousand Oaks.
18. Denzin, N.K. and Y.S. Lincoln, *The Discipline and Practice of Qualitative Research*, in *The Sage Handbook of Qualitative Research*, N.K. Denzin and Y.S. Lincoln, Editors. 2005, Sage Publications, Inc.: Thousand Oaks.
19. Greenwood, D.J. and M. Levin, *Reform of the Social Sciences and The Universities Through Action Research*, in *The Sage Handbook of Qualitative Research*, N.K. Denzin and Y.S. Lincoln, Editors. 2005, Sage Publications, Inc.: Thousand Oaks.
20. Marcus, G.E., *What comes (just) after 'post'? The case of ethnography*, in *Handbook of Qualitative Research*, N.K. Denzin and Y.S. Lincoln, Editors. 1994, Sage, Publications Inc.: Thousand Oaks. p. 563-574.
21. Clarke, C.A., A.D. Brown, and V.H. Hailey, *Working identities? Antagonistic discursive resources and managerial identity*. Human Relations, 2009. **62**(3): p. 323-352.
22. Turner, J.C., et al., *Rediscovering the Social Group: self-categorization theory*. 1987, Oxford: B. Blackwell.

23. Dick, R.V., et al., *Category Salience and Organizational Identification*. Journal of Occupational & Organizational Psychology, 2005. **78**(1): p. 273-285.
24. Collin, A. and R.A. Young, *The Future of Career*, in *The Future of Career*, A. Collin and R.A. Young, Editors. 2000, Cambridge University Press: Cambridge. p. 276-300.
25. Costello, C.Y., *Professional identity Crisis: Race, Class, Gender and Success at Professional Schools*. 2005: Vanderbilt University Press.
26. Alvesson, M., *Knowledge Work: Ambiguity, Image and Identity*. Human Relations, 2001. **54**(7): p. 863-886.
27. Cline, R.R., D.A. Mott, and J.C. Schommer, *Relationship Between Attitudes, Demographics and Application Decisions Among Pre-Pharmacy Students: An Exploratory Investigation*. American Journal of Pharmaceutical Education, 1999. **63**(4): p. 394-401.
28. Willis, S., P. Shann, and K. Hassell (2006a) *Report 4: Early choices questionnaire. Analysis of the questionnaire. Studying pharmacy: Who, when, how, why? What next? Centre for Pharmacy Workforce Studies, Manchester University*. Academic Pharmacy Group Newsletter **Volume**,
29. Willis, S., P. Shann, and K. Hassell, *Who will be tomorrow's pharmacists and why did they study pharmacy?* The Pharmaceutical Journal, 2006b. **277**(7410): p. 107-108.
30. Roller, L. *Intrinsic and extrinsic factors in choosing pharmacy as a course of study at Monash University 1999– 2004*. in *13th International Social Pharmacy Workshop*. 2004. Malta.
31. Siracuse, M.V., et al., *Assessing Career Aspirations of Pharmacy Students*. American Journal of Pharmaceutical Education, 2004. **68**(3): p. 1-12.
32. Horsburgh, M., et al., *The professional subcultures of students entering medicine, nursing and pharmacy programmes*. Journal of Interprofessional Care, 2006. **20**(4): p. 425-431.
33. Capstick, S., J.A. Green, and R. Beresford, *Choosing a course of study and career in pharmacy student attitudes and intentions across three years at a New Zealand School of Pharmacy*. Pharmacy Education, 2007. **7**(4): p. 359 - 373.
34. Scott, W.R., *Institutions and Organizations*. 2001, Thousand Oaks: Sage Publications, Inc.
35. Zucker, L.G., *The role of institutionalization in cultural persistence* American Sociological Review, 1977. **42**(1): p. 726-743.
36. Turnley, W.H. and D.C. Feldman, *A Discrepancy Model of Psychological Contract Violations*. Human Resource Management Review, 1999. **9**(3): p. 367-386.
37. Rousseau, D.M., *Why workers still identify with organizations*. Journal of Organizational Behavior, 1998. **19**(3): p. 217-233.
38. Rousseau, D.M., *Psychological and implied contracts in organizations*. Employee Responsibilities and Rights Journal, 1989. **2**(2): p. 121-139.
39. Rousseau, D.M., *The idiosyncratic deal: Flexibility versus fairness*. Organizational Dynamics, 2001. **29**(260-273).
40. Bocchino, C.C., B.W. Hartman, and P.F. Foley, *The Relationship Between Person--Organization Congruence, Perceived Violations of the Psychological Contract, and Occupational Stress Symptoms*. Consulting Psychology Journal: Practice & Research, 2003. **55**(4): p. 203-214.
41. Rousseau, D.M. and C. Tinsley, *Human resources are local: Society and social contracts in a global economy*, in *International handbook of selection and*



- assessment, N. Anderson and P. Herriot, Editors. 1997, John Wiley & Sons: New York. p. 123-145.
42. Morrison, E. and S. Robinson, *When employees feel betrayed: A model of how psychological contract violation develops*. *Academy of Management Review*, 1997. **22**(1): p. 226-256.
  43. Fournier, V., *The appeal to professionalism as a disciplinary mechanism*. *Sociological Review*, 1999. **47**(22): p. 280-307.
  44. Humphreys, M. and A.D. Brown, *Narratives of Organizational Identity and Identification: A Case Study of Hegemony and Resistance*. *Organization Studies*, 2002. **23**(3): p. 421-447.
  45. Beech, N., *On the Nature of Dialogic Identity Work*. *Organization*, 2008. **15**(1): p. 51-74.
  46. Dutton, J.E., J.M. Dukerich, and C.V. Harquail, *Organizational Images and Member Identification*. *Administrative Science Quarterly*, 1994. **39**(2): p. 239-263.
  47. Elsbach, K.D. and C.B. Bhattacharya, *Defining Who You Are By What You Are Not: Organizational Disidentification and the National Rifle Association*. *Organization Science*, 2001. **12**(4): p. 393-403.
  48. Ashforth, B.E. and B.W. Gibbs, *The Double-Edge of Organizational Legitimation*. *Organization Science*, 1990. **1**(2): p. 177-194.
  49. Hinkle, S., et al., *Intragroup identification and intergroup differentiation: A multicomponent approach*. *British Journal of Social Psychology*, 1989. **28**(4): p. 305-317.
  50. Ashforth, B.E. and F. Mael, *Social Identity Theory and the Organization*. *Academy of Management Review*, 1989. **14**(1): p. 20-39.
  51. DiMaggio, P.J. and W.W. Powell, *The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields*. *American Sociological Review*, 1983. **48**(2): p. 147-160.
  52. Sims, D., *Living a Story and Storying a Life: A Narrative Understanding of Distributed Self*, in *Organization and Identity*, A. Linstead and S. Linstead, Editors. 2005a, Routledge: London. p. 86-104.
  53. Sims, D., *You Bastard: A Narrative Exploration of the Experience of Indignation within Organizations*. *Organization Studies*, 2005b. **26**(11): p. 1625-1640.
  54. Boje, D.M., *Stories of The Storytelling Organization: A postmodern analysis of Disney as "Tamara-Land"*. *Academy of Management Journal*, 1995. **38**(4): p. 997-1035.
  55. Ng, T.W.H., et al., *Determinants of job mobility: A theoretical integration and extension*. *Journal of Occupational & Organizational Psychology*, 2007. **80**(3): p. 363-386.

# **Competition in the organized retail market and the role of brand: empirical evidence in an Italian town**

**Giovanni Fraquelli\***

Università del Piemonte Orientale “A. Avogadro”, Ceris CNR and HERMES

**Anna Menozzi**

Università del Piemonte Orientale “A. Avogadro”, Universidad Carlos III de Madrid and HERMES

## **Abstract**

Starting from the '60s, the diffusion of supermarkets in the industrialized countries has radically transformed the retail market. In the Italian case, this transformation process is still going on and the entry of new, big operators is welcomed by researchers: strengthening competition, increasing range brands and supply quality are the expected outcomes. On the other hand, the new comers tend to increase the market shares of leading brands and, as a consequence, to create monopolistic and collusive rents and to make small and medium retailers to leave the market.

The economic literature deals with the dilemma: does the concentration process broadens the supply range and creates scale economies or does it facilitate collusive agreements and market power exploitation at the expense of consumers' welfare?

This paper aims at studying the degree of competition and the price strategies of supermarkets in a Province in the north of Italy. The empirical evidence leads to three important results: the presence of competitors within a 10 km radius has a negative effect on the supermarkets' prices; the presence of small retailers has a negative effect on prices; there are scale economies at a “brand” level: the four most important distribution chains in Italy show lower prices than less important chains.

*Preliminary version*

\* Corresponding Author: Università del Piemonte Orientale “A. Avogadro”, via Perrone 18, 28100 Novara; tel: +390321375414, fax: +390321375405; email: giovanni.fraquelli@eco.unipmn.it

## 1. Introduction

“...a dark secret may also lie at the heart of British retailing”, so commented the Economist in May 2008, in presenting the results of a survey on the competition between British supermarkets, sponsored by OFT Office of Fair Trading, the U.K. Competition Authority. The article highlighted the enormous benefits of consolidation, in terms of variety, quality and price, but noted that the dimension and the market power of the four major British retail chains needed a watchful eye in order to avoid the chance of dangerous collusions. In fact, in major industrialized countries, the process of modernization of the commercial sector has led to a high concentration of retail chains (ICE, 2009, 2010).

In the Italian case, this transformation process is still going on and the entry of new, big operators, is welcomed by researchers and policy makers: strengthening competition, increasing supply quality brands and range are the expected outcomes. On the other hand, the newcomers tend to increase the market shares of leading brands and, as a consequence, to create monopolistic and collusive rents and to make small and medium retailers to leave the market.

The economic literature deals with the dilemma: does the concentration process broadens the supply range and creates scale economies or does it facilitated collusive agreements and market power exploitation at the expense of consumers' welfare? This question has been the subject of an intense debate between the Harvard School (Bain, 1959, 1956, and Mason, 1964) and the Chicago School (Bork, 1966, and Posner, 1975). The first had a major role during the '60s and the '70s; in this view, market concentration is synonym of monopoly power and anticompetitive conduct. The second view prevailed during the late '80s and concentrates on efficiency and welfare considerations, stressing the consequences of concentration in terms of cost and price reduction and increase in the quantity of goods or services available to consumers. Although none of the two positions is dominant, the prevailing attitude of antitrust authorities toward concentration in the supermarket industry, at least in the Anglo-Saxon system, is to limit any possible increase in the major chains' market power.

In Britain, the OFT Director, in promoting the above cited survey at the “Competition Commission”, stated: “*Although consumers have benefited from lower prices, the restrictions in the planning system, and the possible incentives those restrictions create for retailers to distort competition, may harm consumers and mean that competition in the market is less than it might be otherwise* (The Times, March 9 2006).”

In fact, the assessment of the impact of mergers on consumer welfare is a complex task because, in most European countries, the retail sector is highly concentrated and few major brands dominate the market. Italy, being an exception, represents a useful case study: the concentration in

the supermarket industry is well below the European average, market is characterized by the presence of many small retail stores and by an uneven distribution of supermarkets, with different degree of competition within defined geographical areas.

The paper aims at contributing to the debate on the impact of the consolidation process within the supermarket industry and concentrates on the effect on prices. The analysis is based on a sample of 25 food supermarkets, located in the Italian region of Piedmont and on the prices applied by each of them to 39 branded products, representing an average Italian family's basket of consumption. The empirical strategy includes the estimation of parameters of a linear regression equation by the method of Ordinary Least Squares (OLS), where the total expenditure on the 39-products basket and, alternatively, the weighted average price of a product in each supermarket, are the dependent variables. Independent variables reflect competitive conditions, goods' characteristics, supermarket features.

The paper is organized as follows. Next section presents the evolution of the Italian distribution system and the structure of the current supply. Section 3 examines the relevant economic literature and discusses the hypotheses to be tested. Section 4 outlines the empirical model and describes the variables used to test the hypotheses. Section 5 presents the results of the empirical analysis and concludes with a discussion of strategic implications and policy considerations.

## **2. The Italian retail market**

The Italian retail sector records a slow start during the 80's and consolidates in the 90s. The tremendous growth in family incomes of the '50s and '60s and the subsequent socio-economic transformation have created the basis for the changes that are still in place in Italy. From a fragmented structure characterized by small, family firms, the sector has transformed into an integrated system able to offer a more structured, innovative and differentiated service. In this context, the small and medium enterprises lose market share at the advantage of large companies. The transformation is particularly evident in the food industry. In fact, the new distribution formulas provide to the consumers the chance to concentrate their purchases, to save time, to choice between more labels and competitive prices. In 1998, the trade regulation reform, introduced by Legislative Decree no. 114/98 (the "Bersani Decree"), spurs the phenomenon. The reform consists of an "administrative deregulation" of a general nature (Shepherd, 2008), aimed at ensuring greater competition (market transparency, free movement of goods, consumer protection) and modernization of the sector in a context of pluralism and equilibrium between the different forms of distribution and sales organizations.

Following this evolution, the distribution industry in Italy, reaches a market share of approximately 55% (Graph 1), with a share of the food area of approximately 71% (Graph 2). Despite these development, the Italian situation, compared to other European countries, shows a significant diversity in the degree of concentration. In 2010, the top five companies in the "Grocery" industry held approximately 57% of total sales (COOP, 17.1%, Conad, 11.1%, Esselunga, 9.8%, Auchan, 9.6%, Selex, 9.4%); this percentage is significantly lower of the equivalent market share in Spain (72%), Germany (74%), France (85%) and United Kingdom (> 80%) (IRI Infoscan, 2010). The gap is even more pronounced in terms of size. In Italy, hypermarkets (retail floor spaces over 2,500 square meters), cover 27% only of food distribution, a percentage far below that of other European countries (Spain: 30%; Germany: 28%; France: 55%; U.K.: 55 %; Nielsen, 2009). On the other hand, traditional shops and superettes (free service store with a floor space between 200 and 400 square meters) are still very popular, accounting for 25% of food distribution channel (Nielsen, 2009).

Italy is developing its own distribution model, based on a variety of distribution formulas, offering a wide and balanced supply and a good capillarity, despite the higher cost of the system. Table 1 shows the evolution of retail outlets and shows that despite the increase in the modern retail stores, over the past decade, traditional stores still represent a significant part of the market. Nevertheless, in the food industry, small stores are subjected to a double competitive pressure: on the one hand, the consumption of meals outside the home has increased from 13% of individual food consumption in 1980 to 35% today, causing a reduction in the demand to distributors and direct a big impact on small retailers. In parallel, the supermarket supply is often successful in terms of variety and prices. As a consequence, the presence of small food retailers has decreased in favour of a selected and higher quality supply.

In the Italian supermarket industry, the so-called "gruppi di acquisto solidale" have played a particular role in the concentration process (Shepherd, 2008). These groups are cooperative associations of retailers providing legal and patrimonial autonomy to the members, oriented to the joint management of purchasing and promotion and of information, logistic, financial and educational services. These organizations have arisen as a reaction to the development of large distribution companies, with the aim of achieving economies of scale in purchasing and promoting the image and the management aspects of small-sized retail chains. The search for synergies and economies of scale has sometimes led associations to create higher-level aggregations called "Supercentrali di Acquisto", aimed at further increasing the bargaining power in the negotiation with suppliers. In 2010, the first five groups (Coop Italy, Intermedia 90, Sicon, ESD Italia, Grido) represented 42% of Italian food market.

### **3. Literature on competitive price and research hypothesis**

The level of food prices in supermarkets is affected by many factors, related to store characteristics and to competitive, cost, demand and location conditions (Gauri et al., 2008, Binkley and Connor, 1998). In this paper, we primarily focus on competition and the exercise of market power. The analysis concentrates on competition at a local level, the concentration of retail chains, scale of production and on differentiation, not disregarding the demographic characteristics of supply and demand.

#### **3.1 Spatial competition**

The theme of territorial competition has ancient origins (Hotelling, 1929) and constitutes an important aspect of the supermarkets' marketing strategies. Gonzalez-Benito et al. (2005) show that the presence at local level of stores with the same "format" enhances competition, other conditions being equal. This situation leads to a reduction in prices and forces companies to elaborate commercial strategies of differentiation. Orhun (2005) develops an empirical model for the optimal placement of outlets in the retail segment, according to the local degree of competition and demand level. She argues that: "*Spatial positioning is a major differentiating factor in this [supermarkets] industry, as in many retail industries. Consumers' shopping trips usually originate from their residences, and distance to the store is one of the major determinants of their choice of where to shop*" (p.2). In the theoretical model, companies simultaneously choose their location considering demand conditions and their expectations on the attitude of the competitors. The decision that maximizes expected profit implies a trade-off between the expectations of consumers and a location protected from competition. The empirical strategy in Orhun (2005) makes use of information concerning food supermarkets, with more than one hundred thousand dollars in weekly revenue, located in 25 metropolitan areas in the United States. Local market is defined as "*a city or bundle of cities that are at least 8mi to another area of settlement with a supermarket*" (p. 7). Results show that competition significantly decreases with distance between stores; the presence of competitors has a negative impact on profits and the influence decrease in the distance.

Chisholm and Norman (2004) propose a model that evaluates the location decisions of multi-product firms offering differentiated goods to consumers characterized by heterogeneous tastes. In particular, they analyze the consequences of competitive proximity and the relationship between profit and the consumer heterogeneity. The model examines five submarkets where there are a leader, with 5 retail outlets, and two followers, with three retail outlets each. Authors show that profits are growing as a function of the distance from competitors. The degree of heterogeneity

of consumers, however, can affect the strategic choices by favouring the vicinity of competitors' unit sales.

Cotterill (2006) analyzes the retail chains' decision on geographical location, on the basis of a survey of antitrust policies and measures applied to the supermarket industry in U.S. and U.K.. Such policies are considered as key factors for a chain's success or failure and the author supports the thesis that the concentration of retail outlets of the same brand is associated to market power and higher prices. The author also stressed the local nature of the market referring to a 2000 Competition Commission's survey saying that consumers, for their weekly purchases, rarely travel more than 10 minutes in urban areas, and more than 15 minutes elsewhere.

The economic literature on commercial distribution also pays attention to the role of small retailers. Binkley and Connor (1998) say: "*The ratio of small store sale to total SMA grocery sales [...] can be viewed as a test of whether small stores represent viable competition for supermarket*" (p. 283). The others note, however, that many researchers attribute low importance to small retailers, as in most countries their presence is very small. In their paper, the variable is indeed not, albeit slightly, statistically significant, but, contrary to their expectations, the coefficient's (negative) sign indicates a possible competitive effect.

On the basis of the literature on spatial competition, we formulate the following hypothesis:

**Hypothesis 1. In a local market, the distance between sales outputs and the presence of smaller-sized retailers affect competition.**

**H1a. In a local market segmented in 10-km radius areas, in which every store competes with all others, the increase in the number of competitors belonging to different brands has a negative effect on average selling prices.**

**H1b. In the Italian case, smaller retailers are still numerous. Their number affects the competitive environment and has a calming effect in the prices of supermarkets.**

### **3.2 Economies of scale and market power**

The possible effects on prices of the concentration process of supply chains is a debated topic, as a result of the trade-off between economies of scale and market power. Jia (2007) stresses the positive consequences of market concentration and big dimension. He studies the U.S. "discount retailing" food industry from 1988 to 1997 and highlights the structural changes induced by the rise of discounters and the dominance of a few large vertically integrated chains. He develops a three-stages game, in reference to 2,065 local markets, represented by the counties with population between 5,000 and 64,000 inhabitants. In the first stage of the game, profits are derived in the

absence of large retail chains; in the second stage, the two large discount chains dominating the U.S. market (Kmart and Wal-Mart) enter the market; in the third stage, small retailers possibly enter and survive. The chains' size induces a decrease in procurement costs and distribution headcount. In addition, the spatial concentration of retail outlets of the same chain allows a better allocation of promotion, sales, management and staff training costs. It should however be noted that the economies of scale associated with the two big discount chains have created a harsh impact on small retailers, that make no profit in 48% to 58% cases.

Smith H. (2006) presents a theoretical model and an empirical verification on the localization decisions and the optimal size of British supermarkets. The theoretical premises concern industry and consumers' conflicting interest: the former tend to invest outside the city in order to take advantage of the economies of scale provided by large available areas, the latter want to shop in urban centres and within walking distance. The interests of both groups are converging on medium-sized shops. Many shops, sub-optimal in size but close to the consumer, are used to satisfy the customer demand and subtract it from opponents.

Smith R.L. (2006) highlights the dangers associated with the processes of concentration in the commercial sector on the basis of Australian authorities' investigations on the concentration and vertical integration processes occurred in the second half of the 90's in the country. In a context such as the Australian one, characterized by large areas and low population density, the phenomenon of concentration could pose a serious threat to competition, with the exclusion of many small retailers from the market.

Two other studies on the trade-off between cost efficiency and market power, by Cotterill, (1986) and by Burt and Sparks (2003), bring concrete evidence to the exercise of market power. The first one analyzes the prices charged by supermarkets in the local markets of Vermont (U.S.) and notes that the prices are significantly higher in markets with a higher concentration. The second study concentrates on the British food market and shows that large chains exert their market power both vertically and horizontally. Burt and Sparks (2003) document the change in the organizational structure of major food chains and the centralization of corporate control. This process has contributed to the supermarkets' leadership not only towards other forms of distribution but also in the procurement process, with the subtraction of power from producers and the appearance of private label products. While it seems certain that the process has strengthened the weight of large commercial chains, the effects on final prices are not clear.

Barros et al. (2006) analyse the hypothesis of a merger between the two largest Portuguese food retailers in order to infer the impact of the increased market power on suppliers and consumers. With regard to the relationship with the manufacturers, lower purchase prices, although



with discounts of different amount, are documented. On the other hand, there is no evidence of any transfer of cost advantages to consumers.

Smith H. (2004) notes that the leading companies concentration within a limited area generates market power and a general increase in the level of food prices. He presents a model referred to the British case, where equilibrium prices are tested in relation to processes of merger and de-merger between the four major chains dominating the market. Mergers resulting in increased number of outlets belonging to the same commercial sign, could generate price increases from 1,2% and 4.4%, with peaks of 7.4% in particular areas. A lower concentration of the signs would imply a significant reduction in prices, from 2% to 3.8%. The indication policies go toward the dispersal of commercial signs and the reallocation of retail outlets. This measure would lead to a situation similar to that of Italy, where big brands have increased their presence in the market but the distribution of their stores is still somewhat scattered among other smaller brands and retailers.

**Hypothesis 2. The concentration of supermarkets generates economies of scale and market power.**

**H2a. The local outlet's size has an uncertain effect on prices: cost savings in procurement and distribution may occur, but also higher costs of selection and prices imposed by the chain.**

**H2b. In the Italian case, characterized by a low local concentration of retail outlets of the same brand, the economies of scale and the market power of large chains are used at the expense of less important brands and smaller retailers, but imply lower prices for consumers.**

### **3.3 Pricing and supermarkets services**

A supermarket's possible competitive advantage, related to product differentiation, concerns the supply of additional food services (bakery, confectionery, cuisine, fish) and services of general interest, such as parking, fuel distribution, supply of pharmaceuticals and financial products. Bonanno and Lopez (2009) offer useful insights in this regard. Their empirical analysis covers 15 supermarket chains in 6 U.S. cities and takes into account the size of individual retail outlets and the nature and consistency of services offered. The authors show that, through competition on services, supermarkets are able to segment the market and attract consumers with lower price sensitivity. The range of services increases the power market, with repercussions on the demand, costs and prices. The results indicate that the additional services generate an expansion in demand and represent close complements of physical goods. However, higher costs are associated with the supply of additional services, especially non-food ones (a phenomenon also reported by Ellickson, 2006). The

food service, in fact, would be characterized by higher cost complementarity, but at an insufficient degree to recover the increased cost structure associated with the expanded offer. Bonanno and Lopez (2009) attribute a rise in retail prices to the increasing level of service and market power associated with product differentiation. Therefore, the investment in ancillary services is a strategy almost always advantageous to the supermarket.

**Hypothesis 3. The supply of ancillary services is a source of differentiation for the retail outlet and attraction of new customers.**

**Market power and higher costs associated with the presence of ancillary services induce an increase in the average level of prices in supermarkets.**

### **3.4 Consumer demographics**

The demographic characteristics of consumers are an important demand component and affect the local competition between the stores. Binkley and Connors (1998) emphasize the importance of local demographic and social factors. They study the supermarket prices in different market conditions in the U.S.: prices are put into relation with demographic and socio-economic variables (size of cities, population growth and density, income per capita, regional location of the retail stores) in addition to variables measuring competition and cost of inputs. The authors do not find any evidence on these variables, except for income, for which the relationship is significant and negative, but not supported by convincing reasons.

The demographics of the consumer is considered also by Orhun (2005): “*When positioning a product, each firm in the market has to consider the proximity to the consumer base of interest and the perceived distance from competing alternatives*” (p.1). In the empirical testing context mentioned above, she emphasizes that the density of the population has a positive effect on profits. Transportation costs for consumers, however, increase with the distance from the retail store and generate an attenuation of the phenomenon. With regard to the store attractiveness for consumers, Fox and Hoch (2005) and Gauri, Sudhir and Talukdar, (2008) obtain similar results. Concerning per capita income, the findings are not unique, but the positive effect on prices seem to prevail. In fact, for consumers with higher income, time seems to assume a greater value. They are willing to accept higher prices, while saving time. Marmorstein et al. (1992), show that consumers with high incomes or rents attribute a greater value to their time and are less motivated to travel long distances to save money in purchasing. Hoch et al. (1995) also show that high income consumers are willing to pay more if the services offered by the shops make them save time.

**Hypothesis 4. The density of population and the level of individual income within the area of interest of the store are positively related to the store prices.**

**For the same distribution structure, the increasing density of population and disposable income of consumers generates a positive impact on the demand and price levels higher.**

#### **4. Conceptual model and variables description**

##### **4.1 The grocery prices model**

A significant part of a supermarket marketing strategies is based on a range of pricing alternatives and a set of different outlet configurations, depending on customer needs and demand conditions (Guari et al., 2008). This paper focuses on variables related to the market power so that the attention is focused on stores with similar characteristics and to the price of common basic food commodities.

The general model used for the empirical analysis is specified as follows:

$$P_i = f(MP_i, SC_i, S_i, D_i) \quad \text{for } i=1, \dots, 25$$

where  $P_i$  is the measure of the average price applied by  $i$ ;  $MP_i$  and  $SC_i$  are vectors measuring the competitive environment of supermarket  $i$ . In particular,  $MP_i$  measures the concentration of production and market power of  $i$ ,  $SC_i$  the degree of competition of the local market of interest of  $i$ ,  $S_i$  indicates the variety of services offered and  $D_i$  identifies some of the consumer demographics' components that may affect the pricing policies of  $i$ . Function  $f$  is linear in the parameters.

##### **4.2 Dependent variables**

Most empirical investigations on retail prices use price indices or the average price of goods at municipal or provincial level. In this paper, we adopt a quite unique approach and measure the price applied by each stores to each product in the sample. The database includes all food supermarkets of 400 square meters or more, located in a province of Northern Italy (Vercelli, in the Piedmont Region). Discounters have been excluded, even bigger than 400 square meters because the format (products and services offered) is substantially different than that of traditional supermarkets and hypermarkets. The sample includes 25 stores, located in 9 different municipalities, belonging to 13 different distribution chains.

With regard to the determination of the price level of the single supermarket, the literature highlights difficulties in both the definition and measurement. Kopalle et al. (2009) say that “[...]”

*different consumers may be interested in different mixes of items so that a store's prices may be relatively high for one consumer but relatively low for another*" (p.58). In this study, prices refer to daily use products available in most food supermarkets. Between 24 January and 3 February 2011 we hand-collected the "basic" price of a basket of 39 branded products with identical weight and size in each of the 25 surveyed supermarkets, disregarding any Everyday Low Price promotion (EDLP) and promotional pricing (HiLo)<sup>1</sup>. Products included in the basket have been selected with the aim to represent the consumption habit of an average Italian family. The average price  $AP_i$  for a supermarket  $i$  is obtained by summing up the price of all the 39 products in the basket and dividing it by 39. In order to improve the basket capacity to represent the consumption of an Italian family, we computed a weighted total expenditure for each supermarket  $i$  (Barros et al., 2006), by summing up the price of each product in the basket multiplied by the weight the Italian Central Institute of Statistics (ISTAT) uses in determining the consumer prices index. The weighted average unit price  $WAP_i$  for each outlet  $i$  is calculated by dividing the weighted total expenditure by the number of products in the basket, 39.

Table 2 lists names and descriptive statistics of the products included in the basket. Prestigious brands such as Nutella, pasta Voiello, Coca Cola, Martini, Barilla, present a small index of variability (coefficient of variation) probably due to the market power exerted by the manufacturer on the distributor. Table 3 compares the prices applied by different stores to the products in the basket: the same basket of products costs 39 euros more, equivalent to 22% approximately, in the most expensive supermarket than in the least expensive one (215 euros vs 176 euros). A similar, although less pronounced, gap exists at a territorial level: the difference between the most expensive municipality and the least expensive one accounts for 20% of the total expenditure on the basket.

### **4.3 Independent variables**

As indicated in the conceptual model, the average price  $AP_i$  and the weighted average price  $WAP_i$  are put into relation with explanatory variables assessing the degree of concentration at a level, the firm size, the characteristics of services offered and the nature and consistency of demand.

The competitive environment of each store was defined by considering its geographical position. Each store was identified by its longitude and latitude<sup>2</sup> coordinates and its "local market"

---

<sup>1</sup> These promotions certainly define the store pricing policy, but their inclusion would require continuous measurements in each supermarket since they apply to different products and for different periods over time.

<sup>2</sup> The formula of the distance between two points  $(lon_a, lat_a), (lon_b, lat_b)$  on earth is the following:

defined within a range of 10 km. Territorial competition ( $SC_i$ ) is measured with reference to the number of retail outlets in this range (*compet10*) and by the number of small retail stores (*retailers*) located in the same municipality (Cotterill, 2006; Orhun, 2005; Marmorstein et al, 1992; Binkley and Connor; 1998). The concentration of production and market power ( $MP_i$ ) are measured by the surface of sales outlets in square meters (*store size*), and by whether they belong to one of the four top food chains Interdis, Selex, Sisa e Despar (*chain*).

The explanatory variables concerning the service differentiation of store  $i$ ,  $S_i$ , measure the variety of commercial services, such as pharmaceutical services (*pharm*), opening times and days (*overrunning.t, 7days*), the availability of parking (*parking*). The demographic context ( $D_i$ ) is indicated by the number of inhabitants (*city size*), population density (*popdens*) and per capita income (*incomepc*) of the municipality.

## 5. Results

### 5.1 Model estimation

The estimates were performed using the statistical package STATA (version 10.1) and the significance of parameters was tested at different levels (p-value<0.01, p-value<0.05, p-value<0.10). Table 4 presents the results. The robustness of the estimates can be verified by comparing the estimated models for the two dependent variables  $AP_i$  and  $WAP_i$ . In the first four columns the dependent variable is  $AP_i$ , the simple average of the 39 products's prices. Columns 5, 6, 7 and 8 present the same model's estimates but with  $WAP_i$ , the weighted average unit price, as dependent variable. The estimates associated with two different dependent variables indicate a high explanatory power of the model, with values essentially homogeneous. The R-square improves by around one percentage point when  $WAP_i$  is the dependent variable. The parameters of the independent variables show the same statistical significance in both specification, demonstrating the robustness of the results.

Models in columns 1 and 4 represent the baseline. The difference between columns 1 and 4, on the one hand, and the other columns, on the other hand, consists in the reduction in the number of explanatory variables. In particular, in columns 2 and 6 the dummies measuring the presence of services (pharmaceuticals, parking, open all day, open on Sundays) are not included, because they

---


$$d_{a,b} = 3956 * 2 * \arcsin \left( \min \left( 1, \sqrt{\sin^2 \left( \frac{dlat}{2} \right) + \cos(lat_a) * \cos(lat_b) * \sin^2 \left( \frac{dlon}{2} \right)} \right) \right)$$

where  $dlon = lon_a * \frac{\pi}{180} - lon_b * \frac{\pi}{180}$  and  $dlat = lat_a * \frac{\pi}{180} - lat_b * \frac{\pi}{180}$ .

do not show a statistically significant effect on prices in the other models. Equations 3, 4, 7 and 8, omit the dummy on services and, alternatively, the variable measuring the number of small operators in the area, *retailers*, and that of the number of competitors within the radius of 10 km, *compet10*. In fact, the two variables are related.

## 5.2 Hypotheses testing

The primary focus of the paper is the analysis of the exercise of market power by supermarkets as a function of demand and competitive conditions. The economic literature concentrates on competition between large supermarkets operating within a local area, with many shops belonging to the same chain (Jia, 2007; Chisholm and Norman; 2004; H. Smith, 2004). The development delay of the Italian distribution sector offers the chance to significantly compare the pricing policies of independent competitors, still limited in their size and integration stage.

Hypothesis H1a stresses the importance of competition in a local market, where the consumer has little time to get to the store (in our case, a 10 km trip, at most). The coefficient of the variable *compet10*, that measures the number of local competitors, has a negative sign and it is statistically significant at 1% level. The effectiveness of the explanatory variable *compet10* is also confirmed by the significant reduction in R-squared in models 4 and 8, where it is omitted.

Hypothesis H1b attributes a dampening role to prices solicited by small retailers. Models 4 and 8, including not number of competitors with greater dimension, *compet10*, but the number of *retailers* instead, confirms the hypothesis. The estimated coefficient of *retailers* presents a negative sign and is statistically significant, although at a lower significance level (p-value <0.05) than that of supermarkets. In essence, a large number of small retailers in the supermarket area impose a cap on price level, as in Binkley and Connor (1998).

The second hypothesis is aimed at testing, on the one hand, the presence of economies of scale associated with the size of each outlet and, on the other hand, market concentration of major retail chains. Hypothesis H2a, on the presence of economies of scale related to the store size, stays open to the possibility of both a positive and negative effect of dimension on prices. The estimate shows that the coefficient on the scale variable *store size* is never statistically significant. In this regard, it should be noted that the variability of *store size* is small and the correlation between the average prices of outlets belonging to the same brand is high, thus indicating that chains tend to impose uniform prices among different stores, regardless of their size.

Hypothesis H2b, on brand concentration and the possible economies associated with large groups, is confirmed. Outlets belonging to the four major Italian retail chains apply lower prices. The dummy *chain* (equal to 1 when the store belong to one of the major chains), is significant in all

equations and has the expected negative sign. In essence, larger retail chains benefit from horizontal and vertical size economies that allow them to charge lower price and acquire customers at the expense of small-sized retailers and chains (Jia, 2007).

Complementary services offered by sales outlets represent a source of product differentiation. Hypothesis H3 tests the relationship between ancillary services and price level. Dummy variable capturing the key services (*pharm*, *overrunn.t*, *7days*, *parking*) do not ever assume statistical significance. Therefore, the hypothesis is rejected. The result seems in contrast with the evidence at international level, but depends on the fact that services do not really differentiate sample stores since they are offered by almost all of them.

Hypothesis H4 takes into account local demographics. In fact, nature, dimension and composition of local demand can affect supermarket prices together with the market competitive conditions. To this purpose, we consider the size of the municipalities where stores are located (*city size*), the density of population (*denspop*) and consumers' per capita income (*incomepc*). The three variables measured in different ways the potential of local demand and are expected to exert a positive influence on prices. In fact, a larger local market, higher population density and higher disposable income, other conditions being equal, increase demand and facilitate more profitable pricing strategies for businesses. Hypothesis H4 is confirmed for the size of potential demand only, while the income component is not significant. The coefficients of *city size* and *denspop* are positive and significant in all estimated models (but one, model 5, for *denspop*: to be investigated), with significance ranging from a 1% to 5% level. The coefficient of *incomepc* is never significant but the result is not surprising because at high levels, income affects spending decision on foot only slightly: in fact, the Vercelli area, where stores are located, is structurally among the richest in Italy, ranking at the 25th place among the 107 Italian provinces in per capita income in 2010 (UNIONCAMERE, 2010).

## **6. Discussion and Conclusions**

The paper aims at studying the pricing policies of Italian food supermarkets in relation to local competitive conditions. The topic is relevant both at national and international level. In the Italian case, large distribution chains exert strong competitive pressure aimed at increasing their market share, which is still well below the European levels. At the international level, the distribution industry is concerned by the problem of avoiding economic collusion between dominating chains so that competition in the local area is not compromised.

The estimates provide important confirmations of results emerging from the existing theoretical and empirical literature. The greater the number of competitors within a radius of 10 km,

the lower the prices. An original finding of the paper, perhaps unexpected, but relevant in the Italian context, concerns the role of small retailers. A large number of retailers in the supermarket area of influence has a negative and statistically significant effect on the supermarkets' price level. As suggested by models of oligopolistic competition, small retailers, although less competitive on prices, have a calming effect on the prices applied by the bigger supermarkets.

With regard to the supply conditions, the dimension of sales outlets appears to have no impact on price levels, while the size of the chain becomes relevant. The four major food chains in the Italian market (Interdis, Selex, Sisa e Despar) have, on average, lower prices than less important chains, proving the existence of economies of scale associated with the leading companies in the domestic market. The results also confirm that the demographic component of demand can not be neglected. The overall size of the target market and the population density, other conditions being equal, determine an increase in the cost of the consumption basket for local consumers.

The strategic and policy implications are relevant. Considering that in Italy the concentration of food distribution has not reached yet the level of other countries, it is important to give continuity to the sector modernization while ensuring an adequate protection to the consumer at the same time. New territorial settlements should be projected so as to avoid the local concentration of outlets of the same brand and ensure the presence of more competitors of different brands within a limited range. In parallel, policies are needed, to ensure the survival of a sufficiently large number of small retailers. Their presence contributes to control the price level of large supermarkets.

The paper's findings represent an important confirmation of results obtained in the international arena. The evidence seem to give further support to H. Smith's (2004) suggestions to improve local competitiveness by reducing and re-allocating retail outlets of the same brand. In short, where the concentration of brands is particularly high, it is important to pay close attention to the local context, placing constraints on market power of big chain and encouraging competition between brands. In parallel, interventions and incentives in favour of new, small-sized ventures in the retail distribution are welcomed.

The article seeks to demonstrate the beneficial effects of local competition and finds significant confirmation of the intuition. The empirical strategy is based on the direct measurement of prices applied by supermarkets in an Italian Province. Major limitations concern the limited number of sample units even if they represent the total population of an Italian province. Also, marketing initiatives affecting price (Every Day Low Price and promotions) have been disregarded. In fact, a supermarket could set a strategy based on higher average prices but flashy promotions to attract consumers. In this case, it would be appropriate to conduct more surveys at the same store, taking into account discount policies. Future research will be aimed at increasing the number of



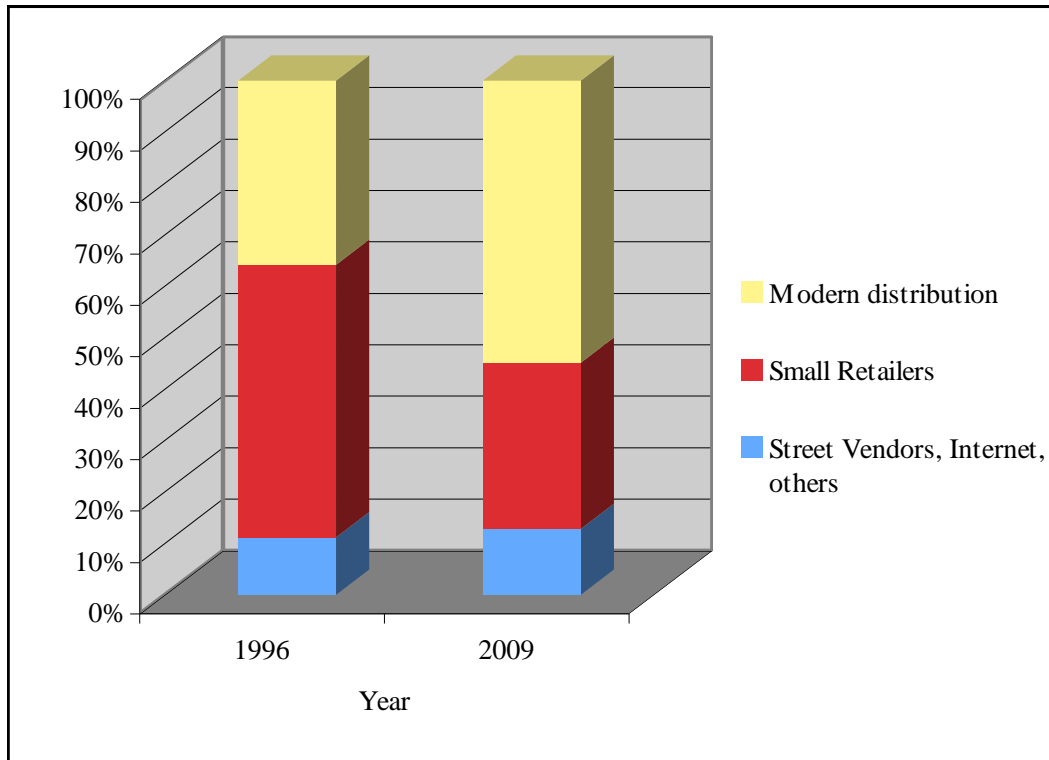
observations, by including other Italian provinces and repeated measurements over time at each supermarket.

## References

- Bain J. S. (2d ed.1959), *Industrial Organization*, Wiley, N.Y.
- Bain J. S. (1956) “Barriers to New Competition, Harvard University Press, Cambridge, (Mass.).
- Barros P.P., Brito D., De Lucena D. (2006), “Mergers in the Food Retailing Sector: an Empirical Investigation”, *European Economic Review*, Vol. 50, 447-468
- Binkley J., Connor J. (1998), “Grocery Market Pricing and the New Competitive Environment”, *Journal of Retailing*, Vol. 74, 273-294.
- Bork R. H. (1966), “Legislative Intent and the Policy of the Sherman Act”, *Journal of Law and Economics*, 9, 7-?
- Burt S., Sparks L. (2003), “Power and Competition in the UK Retail Grocery Market”, *British Journal of Management*, Vol. 14, 237-254
- Bonanno A., Lopez R. A., (2009), “Competition Effects of Supermarket Services”, *American Journal of Agricultural Economics*, Vol. 91, N. 3, 555-568
- Chisholm D., Norman G. (2004), “Heterogeneous Preferences and Location Choice with Multi-product Firms”, *Regional Science and Urban Economics*, 34, 321-339.
- Cotterill R. W. (2006), “Antitrust analysis of Supermarkets: Global Concerns Playing Out in local markets “, *The Australian Journal of Agricultural and Resource Economics*, 50, 17-32.
- Cotterill R.W. (1986), “Market Power in the Retail Food Industry: Evidence from Vermont”, *Review of Economics and Statistics*, Vol. 68, 379-386
- Ellickson P.B., (2006), “Quality Competition in Retailing: A Structural Analysis”, *International Journal of Industrial Organization*, Vol. 24, 521-554
- Fox, E. J., Hoch S. J., (2005), “Cherry-Picking,” *Journal of Marketing*, 69,1, 46–62
- Gauri, D. K., Sudhir K., Talukdar D., (2008), “The Temporal and Spatial Dimensions of Price Search: Insights from Matching Household Survey and Purchase Data,” *Journal of Marketing Research*, Vol. 45,2, 226–40
- Gauri D. K., Trivedi M., Grewal D., (2008), “Understanding the Determinants of Retail Strategy: An Empirical Analysis”, *Journal of Retailing*, Vol. 84, 3, 256–267.
- Hoch, S. J., Do Kim B., Montgomery A., Rossi P., (1995), “Determinants of Store-Level Price Elasticity,” *Journal of Marketing Research*, 32, 17–28.
- Hotelling H. (1929), “Stability in Competition”, *Economic Journal*, 39, 41-57.
- ISTITUTO NAZIONALE PER IL COMMERCIO ESTERO, (ICE), Settembre 2009, Dicembre 2009, Novembre 2010, [www.ice.gov.it](http://www.ice.gov.it).
- Jia P. (2007), “What happens when Wal-Mart Comes To Town: An Empirical Analysis of the Discount Retailing Industry”, *Econometrica*, 76, 6,1263-1316.

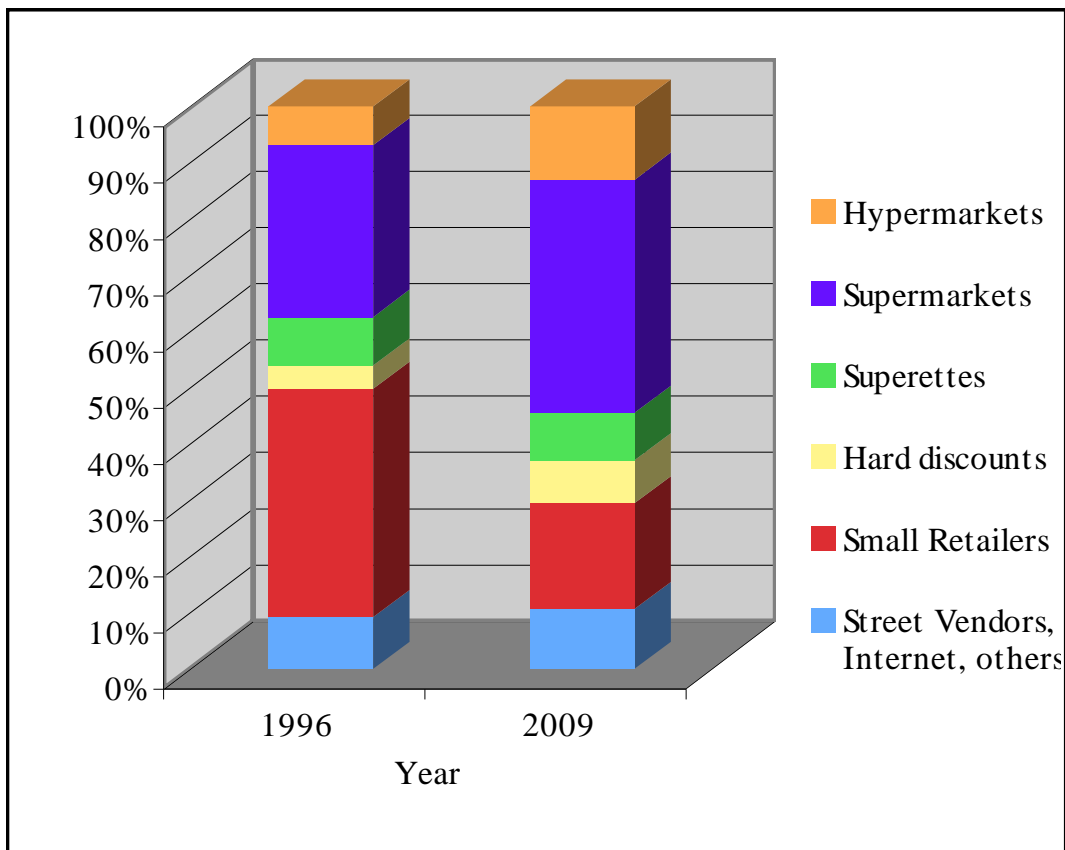
- Kopalle P., Biswas D., Chintagunta P. K., Fan J., Pauwels K., Ratchford B.T., Sills J. A., (2009), “Retailer Pricing and Competitive Effects”, *Journal of Retailing*, Vol. 85, 1,56-70.
- Mason E.S. (1964), *Economic Concentration And The Oligopoly Problem*, Harvard University Press, Cambridge, (Mass.).
- Marmorstein, H. D. G., Fische R. P.H., (1992), “The Value of Time Spent in Price-Comparison Shopping: Survey and Experimental Evidence,” *Journal of Consumer Research*, 19, 52–61.
- Orhun A. Y., (2005), “Spatial differentiation in the supermarket industry”, Haas School of Business, University of California at Berkeley.
- Pastore A., (2008) “Gli scenari di sviluppo del Grocery: Quali prospettive per le medie imprese italiane?”, Franco Angeli, Milano.
- Posner R. A. (1975), “Antitrust Policy and the Supreme Court: An Analysis of the Restricted distribution, Horizontal Merger and Potential Competition Decisions”, *Columbia Law Review*, 75, 282-297.
- Smith H. (2006), “Store Characteristics in Retail Oligopoly, *Rand Journal of Economics*, 37,2, 416-430.
- Smith H., (2004), “Supermarket Choice and Supermarket Competition in Market Equilibrium”, *Review of Economic Studies*, 71, 235-263.
- Smith R. L. (2006), “The Australian Grocery Industry: A Competition Perspective, *Australian Journal of Agricultural Resource Economics*, 50, 1, 33-50.
- The Economist, Supermaket sweep, May 1st 2008.
- The Times, ( Costello M.) ,Big supermarkets face competition probe, March 9th 2006.
- UNIONCAMERE, 2010, *Graduatoria provinciale secondo il PIL pro capite*.

**Figure 1 – Market shares of different store format in the Italian retail market**



Source: Nielsen (2010)

**Figure 2 – Market shares of grocery store formats in Italy**



Source: Nielsen (2010)

**Table 1: Number of stores in Italy**

	<b>1996</b>	<b>2009</b>
<b>Small retailers</b>	<b>615.186</b>	<b>658.000</b>
not grocery	408.513	488.000
grocery	206.673	170.000
<b>Barrow shops</b>	<b>107.144</b>	<b>133.000</b>
not grocery	72.798	106.000
grocery	34.346	27.000
<b>Big retailers</b>	<b>15.569</b>	<b>23.859</b>
not grocery	1.759	3.533
Grocery	980	829
commercial centres	779	2.704
<b>Grocery</b>	<b>13.810</b>	<b>20.326</b>
HYpermarkets	173	415
Supermarkets	6.126	9.026
superettes	5.500	6.756
hard discounts	2.011	4.129

Source: Nielsen 2010

**Table 2 – Descriptive statistics: unit prices**

<b>Items</b>	<b>Mean</b>	<b>Min</b>	<b>Max</b>	<b>Coefficient of variation</b>
Aceto Ponti	1.01	0.65	1.21	0.121
Acqua Ferrarelle	2.51	1.98	2.94	0.094
Amaro Montenegro	12.80	11.70	14.70	0.060
Aranciata S.Pellegrino	1.12	0.99	1.19	0.052
Baston. Findus	2.71	2.05	3.35	0.125
Birra Heiniken	1.31	1.09	1.48	0.082
Birra Peroni	1.07	0.85	1.25	0.088
Biscotti Colussi	2.50	1.56	3.10	0.168
Biscotti Plasmon	4.54	3.19	5.69	0.092
Caffè Lavazza	2.94	2.32	3.15	0.065
Carne Simmenthal	3.42	2.35	4.39	0.112
Cereali Kellog's	2.83	2.55	3.40	0.081
Coca Cola	1.59	1.50	1.69	0.030
Coppa oro	2.60	2.09	3.19	0.133
Crodino	4.19	3.50	5.19	0.099
Dadi Star	1.24	0.95	1.89	0.175
Danette Danone	2.41	1.65	2.79	0.133
Dentifr.Colgate	2.27	1.62	2.91	0.134
Philad.Kraft	2.19	1.65	2.65	0.135
Latte Granarolo	1.48	1.15	1.65	0.064
Martini	7.43	6.40	7.90	0.048
Mozz. S.Lucia	1.16	0.69	1.39	0.136
Nutella	2.32	2.27	2.49	0.027
Olio Bertolli	4.99	3.95	5.90	0.091
Kinder Sorpresa	0.97	0.78	1.01	0.045
Pan Carrè Mul.Bianco	0.62	0.49	0.68	0.095
Passata Cirio	1.41	1.00	1.66	0.125
Pasta Barilla	0.79	0.72	0.94	0.052
Pasta Voiello	1.06	0.95	1.08	0.039
Pringles	2.07	1.49	2.39	0.119
Ravioli G.Rana	2.94	2.29	3.49	0.117
Riso Scotti	2.65	2.19	3.10	0.111
Rotoloni Regina	3.44	2.96	3.69	0.050
Sott. e Fila	1.62	1.15	1.80	0.113
Succo Santhal	1.47	1.15	1.79	0.101
Tè Beltè	1.09	0.81	1.27	0.082
Tonno Riomare	3.79	3.16	5.30	0.100
Tavernello	1.36	0.99	1.50	0.088
Yogurt Müller	0.64	0.49	0.71	0.060

**Table 3 - Total and weighted expenditure for each store (euro)**

<b>Store</b>	<b>Total expenditure</b>	<b>Weighted expenditure</b>
Conad – Varallo	104.50	212.13
Carrefour Market – Vercelli	102.23	215.31
Coop – Gattinara	102.21	204.97
Unes- Varallo	101.77	209.24
Unes – Quarona	101.06	209.46
Dimeglio- Crescentino	100.98	212.96
Conad- Crescentino	100.97	206.58
Unes2- Borgosesia	100.93	211.15
Unes1- Borgosesia	100.91	209.44
Dimeglio – Trino	100.79	211.69
Unes – Gattinara	100.26	209.44
Conad (Superstore) – Vercelli	100.15	203.03
Carrefour - Borgosesia	99.64	198.64
Coop - Trino	99.11	207.89
A&O 2 - Vercelli	99.05	197.47
Carrefour - Vercelli	98.79	200.90
A&O 1 - Vercelli	98.24	194.87
PrestoFresco - Vercelli	98.11	201.26
Coop (Ipercoop) - Borgosesia	98.07	197.48
Il Gigante - Moncrivello	97.45	200.26
Coop Vercelli	96.66	197.14
Bennet - Vercelli	93.79	189.14
Famila - Vercelli	93.40	190.55
Famila - Santhià	87.94	175.76
Coop - Santhià	86.94	176.53



**Table 4 – Estimation results**

VARIABLES	(1) AP	(2) AP	(3) AP	(4) AP	(5) WAP	(6) WAP	(7) WAP	(8) WAP
<i>denspop</i>	0.0859* (0.0415)	0.0335* (0.0189)	0.0119** (0.00483)	0.0555* (0.0302)	0.00478 (0.00277)	0.00238* (0.00118)	0.000704** (0.000308)	0.00366* (0.00180)
<i>city size</i>	0.287** (0.125)	0.129** (0.0601)	0.0649** (0.0257)	0.213** (0.0949)	0.0151* (0.00835)	0.00801** (0.00375)	0.00301* (0.00164)	0.0129** (0.00565)
<i>compet10</i>	-1.111*** (0.252)	-1.238*** (0.223)	-1.332*** (0.211)		-0.0668*** (0.0169)	-0.0717*** (0.0139)	-0.0790*** (0.0134)	
<i>chain</i>	-2.195 (1.327)	-2.271* (1.144)	-2.138* (1.151)	-3.466* (1.832)	-0.209** (0.0886)	-0.197** (0.0713)	-0.187** (0.0733)	-0.266** (0.109)
<i>retailers</i>	-0.390* (0.218)	-0.123 (0.104)		-0.328* (0.159)	-0.0222 (0.0145)	-0.00954 (0.00649)		-0.0214** (0.00943)
<i>store size</i>	0.000996 (0.000680)	0.000176 (0.000314)	0.000141 (0.000316)	0.000154 (0.000512)	4.96e-05 (4.54e-05)	8.95e-06 (1.96e-05)	6.30e-06 (2.01e-05)	7.71e-06 (3.05e-05)
<i>incomepc</i>	-0.00184 (0.00120)	-0.000122 (0.000526)	8.88e-05 (0.000500)	-0.000276 (0.000856)	-9.23e-05 (8.01e-05)	-2.34e-05 (3.28e-05)	-7.07e-06 (3.18e-05)	-3.24e-05 (5.10e-05)
<i>parking</i>	-2.220 (1.898)				-0.102 (0.127)			
<i>overrunning.t</i>	-0.620 (0.838)				0.00705 (0.0560)			
<i>7days</i>	1.321 (1.114)				0.0114 (0.0744)			
<i>pharm</i>	-4.857 (3.863)				-0.258 (0.258)			
Constant	108.1*** (9.126)	96.41*** (6.503)	98.65*** (6.288)	89.99*** (10.43)	5.671*** (0.610)	5.260*** (0.405)	5.434*** (0.400)	4.888*** (0.621)
Observations	25	25	25	25	25	25	25	25
R-squared	0.815	0.765	0.746	0.340	0.801	0.779	0.751	0.434

Significance level: \*\*\* p-value<0.01, \*\* p-value<0.05, \* p-value<0.10

**Table 5 – Hypotheses testing**

<b>Hypotheses</b>	<b>Independent variable</b>	<b>Expected sign</b>	<b>Results</b>
H1: Local competition reduces the price level	<i>compet10</i>	-	-
	<i>retailers</i>	-	-
H2: Concentration means scale economies and market power	<i>size</i>	+/-	None
	<i>chain</i>	-	-
H3: Differentiation through services is costly	<i>service dummies</i>	+	None
H4: Greater population and incomes increase the price level	<i>city size</i>	+	+
	<i>denspop</i>	+	+
	<i>incomepc</i>	+	None

## **Technology and training in tourism economics: a preliminary study of the suitability of tools.**

Ramón Fuentes Pascual

Adelaida Lillo Bañuls

José Francisco Perles Ribes

*Department of Applied Economic Analysis*

University of Alicante

### **Abstract:**

Since their emergence, new Information and Communications Technologies (ICTs) are being increasingly employed in all areas of society and the economy. Education is no exception, with numerous studies and experiences that illustrate how implementing technological tools substantially improves the performance and productivity of training on every educational level and scale. This study explores the possibilities of using different technological tools in teaching tourism economics based on the experience gained by an educational technology research group examining university students who are studying a tourism degree course. The results obtained suggest that although students are highly predisposed to using technological tools, it is necessary to provide a wide range of possibilities (Virtual Campus, Wikis, blogs, social networks, etc.) in order to improve their motivation and their academic results and to encourage each student to use the tools with which they are most familiar.

### **Introduction**

The University of Alicante is immersed in a process of incorporating technological resources applied to education based on, among other measures, the actions of the Vice-Chancellor's Office of Educational Technology and Innovation. As part of this process a teaching research group has been set up (Gite Tur) in order to introduce educational technology innovations designed to improve the teaching of tourism economics.

This study analyses the attitude of the university students towards the new technological tools that have been introduced and the results of this experience. It also evaluates the new methods of technological-educational innovation that will be gradually incorporated by the teaching staff involved in this initiative.

A first step towards achieving the teaching objectives related to new Information and Communications Technologies (ICTs) was the introduction of the assiduous use by students of a wiki (WikiTur) and a blog (BlogTur) in which the students are able to make their contributions with respect to the different topics comprising the subject of Economics which forms part of the Tourism Degree course.

The first part of this study examines the technology-education relationships and the need to incorporate different educational technology innovations into the teaching of economics within the Tourism Degree. The teaching-learning process carried out with the wiki and the blog is also described.

The second section analyses the results of the first experience set up by the group of lecturers entailing the incorporation of the daily use of the blog and the wiki so as to highlight the positive aspects found and discover the modifications that could be made in the future to improve this process of using technological resources in teaching tourism. To this respect, an analysis using the Atlas Program was conducted (software for analysing qualitative data) based on the opinion data collected in a survey carried

out among our students at the end of the academic year with 5 open questions relating to the use of the blog and the wiki in the subject.

The third section describes a quantitative analysis of a broad and detailed survey carried out among the students regarding aspects related to technological skills and Internet use, access to the University and grants, time dedicated to the subject, family educational background and a numerical evaluation of the technological tools, namely the wiki and the blog.

Finally, the main conclusions drawn from the study are presented, with some reflections regarding teaching innovation in higher education and future strategies.

## **1.-The relationships between New ICTs and education: The experience of Gitetur**

The application of new technologies to higher education is, without a doubt, an essential element for improving the open and flexible teaching-learning processes of using virtual tools and IT and technological processes. This is particularly important for students of Tourism, a sector in which the relationship with technological and IT processes and their every-day use is becoming increasingly necessary.

The subject *Introduction to Economics* is one of the core subjects of the first year of the Tourism Degree. It comprises an introduction to economic analysis with special emphasis given to tourism<sup>1</sup>. The **objective** of this subject is to introduce the students to economic analysis through teaching the basic economic concepts and instruments necessary for them to understand the general economic processes and those specific to the tourism sector, within the framework of economic theory and applied economics.

In line with this objective, the group formed by the lecturers who teach this subject began to work together, developing technological-educational research lines. The fundamental purpose, following the guidelines of the teaching innovation groups based on virtual and new ITCs, was the introduction of free software, full availability of homogenised online materials, complete use of IT resources for teaching available on the Virtual Campus<sup>2</sup>, the establishment of minimum initial conditions for using the Moodle educational platform, the LinkedIn social network, and finally, as an immediately applicable objective, the creation of a blog (BlogTur) and a wiki (WikiTur) as teaching resources for common and everyday use, subject to research and improvement in the preliminary stage.

Moreover, with the implementation of the European Space for Higher Education (ESHE), Ceballos et al. (2010), the credit concept is no longer measured in terms of classes taught but in the volume of work that the student must undertake in order to pass the subject. Therefore the new credit will include not only the hours of classes attended,

---

<sup>1</sup> The topics taught in this subjects, and the resources, objectives and assessment may be consulted at [http://ocw.ua.es/Ciencias\\_Sociales\\_y\\_Juridicas/](http://ocw.ua.es/Ciencias_Sociales_y_Juridicas/). OCW: Open Course Ware of the University of Alicante.

<sup>2</sup> A complementary service to the teaching, academic management and administrative services in an Internet environment which is directed by the teaching staff, students and the administrative staff of the University of Alicante. Through the Virtual Campus, students may access all the services of this IT tool. The teaching option enables students to interact with lecturers (Obtain bibliography of the subject; resources, videos and web links established by the lecturer, tutorials and more frequent queries, lecturer information, debates, tests and qualifications, etc).

but also the work carried out by the student outside of these classes, the solving of exercises, placements or studies, hours of study, examinations, etc.

We could say that the interest in improving the quality of teaching based on educational technology innovation has been stimulated in our universities by this process of change in the educational model.

On the other hand, in recent years there has been what we could call a technological-social “revolution” taking place, arising from the mass use of the new ITCs (Internet use in our daily lives, proliferation of social networks and their widespread use, some of them particularly among the younger population segments, web searchers, mobile phones with Internet connection, iPod with connection, among others).

All of these technological-social changes can be used by teaching staff, partly to motivate students and to facilitate their learning processes, and partly to help develop technological dexterity and skills as a transversal axis in the teaching-learning processes. To do this it is essential that there is a positive attitude towards the use of these new technological resources together with the possibility of applying and incorporating them into the teaching process not only by the lecturers involved but also by the students who are to be using them frequently.

### **1.1.-The blog and the Wiki as educational tools**

The use of methodological research strategies requires teachers to play a dynamic role and understand teaching as a continuous feedback process with the students which enables the content of the subject to be improved. Within this change in the teaching approach, the use of tools such as the blog and the wiki could represent a stimulus for the students and a support for teaching staff. The role of lecturers is no longer limited to merely transmitting contents. They are now concerned with managing the learning process of their students, based on the autonomous work of the students, directed and organised by the team of lecturers through continuous assessment and the sequential evaluation of the objectives achieved and competences acquired.

In our specific case, the group of GITETUR lecturers proposed the use of the Blog and Wiki by the students in the following way. Firstly, once they had been created, we placed an announcement on the virtual campus stating the following:

#### **BLOG AND WIKI:**

The lecturers of the first year course of Introduction to Economics have created a blog (BlogTur) and a wiki (WikiTur) devoted to economic aspects related to tourism (the updated and operative links can be found in the subject links).

In the virtual campus resources we added an assignment proposal, and the grades obtained were added to the final total grade of the subject.

#### **ASSIGNMENT PROPOSAL:**

The student can undertake an assignment consisting in the preparation and presentation of one of the following alternative options:

##### **1.- BLOG**

Find a piece of news in the media related to one of the topics of the economics course and the tourism sector. In the blog explain the piece and how it relates to the economics topic.

A news piece from any newspaper may be used, preferably in digital format which may be inserted in the blog in the link to the news.

## 2.-WIKI

Prepare a conceptual map of one of the topics of the programme or part of one of the topics.

3.-Create a VIDEO referring to 1 or 2.

It is worth commenting that the teaching staff perceived the students as being receptive and motivated. This is one of the aspects that we have wanted to compare with the surveys<sup>3</sup> conducted among the students and which are analysed in depth in this study.

In addition to the evaluation of the use of the wiki and the blog, another aspect that has been studied, based on the information provided by the surveys, is the comparison of the habitual use of the Internet by the students and the objective of this use. Also the academic history of the students and their families was analysed.

## 2.-Qualitative analysis of the student opinion survey

The free responses included in the survey were analysed through the use of the qualitative analysis program ATLAS 6.1.1., in order to capture information regarding the individual experiences of each student. More specifically, it reveals whether participating in the creation of the wiki and the blog, from their point of view, represented a significant help in their education in terms of both their learning and their desire to collaborate in similar experiences in the future. Furthermore, given the open nature of the responses, any additional opinion supplied by the students that could give a deeper insight into their experience and their degree of involvement with the educational technology represented a unique opportunity to enrich the conclusions.

In order to analyse the information provided by the students, the responses were coded in accordance with the knowledge that the teaching staff had regarding the experience of their students, based on conversations with them and comments made throughout the academic year. Furthermore, other categories were created depending on the type of responses that were generated by the students in the surveys.

A total of 19 categories were created, which in turn were aggregated into four large explanatory groups of the issue in question.

The first group was called “Incentive to study” which had the most numerous responses with 75.34% of interviewees providing answers, admitting that, in one way or another, the wiki and the blog represented a special incentive to revise what they had learned during the year and to incorporate new information referring to specific aspects that they were most interested in.

The second explanatory group was called “Enjoyable learning”. In this case, the students (67.41%) acknowledged that through this type of activity involving discussion, group work and collaboration, they were able to reinforce their knowledge and expand on it in an enjoyable way without becoming bored. In this way, the assimilation process

---

<sup>3</sup> Both surveys are adjoined in the annex.

became an activity that was a pleasurable process for them, replacing the laborious effort of solitary learning.

The third series of opinions were grouped under the title “Educational economies of scale” referring to the fact that a group of the surveyed students (68,09%) acknowledged that the wiki and the blog not only helped them to revise and acquire knowledge in the subject but also introduced them to new technological resources that were previously unknown to them. In this way, as well as improving their level in Economics, they also acquired new skills related to the use of technological tools and the search for information on the Internet.

Finally, the last group was called “Motivation”, including opinions that acknowledged the fact that the use of the two types of educational technology tools object of this study induced a desire in students to use similar learning instruments in the future (45.38%). Therefore, this shows that these tools not only provided them with educational support at the time of using them, but their satisfaction with the results generated a high level of interest in using them again in the future for the same purpose. In fact, the students who did not give any opinion to this respect, did not express any objections to them but suggested other types of additional tools that could complement the use of the wiki and the blog in the classroom, such as video streaming, videos, or even social networks such as Facebook or LinkedIn in which to form discussion groups related to issues that the students suggested themselves with the opportunity of interacting with students from other universities.

In short, the qualitative analysis enabled common factors in the responses of the students to be identified, which, once organised into groups revealed the overall idea that their participation in the project was positively received and satisfactorily utilised from the point of view of their own learning process. And, maybe more importantly, the responses of the students revealed their motivation to continue using similar methods in the future, which when stored in their subconscious may be used to their own benefit.

### **3.-Analytical processing of GITETUR survey**

In order to define some of the afore-mentioned results obtained through the qualitative analysis in more specific terms, another exploratory analysis was simultaneously conducted by way of a survey in order to generate a more complete picture of the student’s perception of the technological tools used. For processing the surveys, the R Commander statistical analysis package<sup>4</sup> was used, which is based on the R free software programming language.<sup>5</sup>

The sample was made up of 77 surveys corresponding to the first year tourism degree groups and one group of the second year tourism diploma course. In terms of

---

<sup>4</sup> John Fox, with contributions from Liviu Andronic, Michael Ash, Theophilus Boye, Stefano Calza, Andy Chang, Philippe Grosjean, Richard Heiberger, G. Jay Kerns, Renaud Lancelot, Matthieu Lesnoff, Uwe Ligges, Samir Messad, Martin Maechler, Robert Muenchen, Duncan Murdoch, Erich Neuwirth, Dan Putler, Brian Ripley, Miroslav Ristic and Peter Wolf. (2011). Rcmdr: R Commander. R package version 1.6-3. <http://CRAN.R-project.org/package=Rcmdr>

<sup>5</sup> R Development Core Team (2010). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL <http://www.R-project.org>.

distribution by sex, 26 surveys were conducted among men (33.73%) and 51 corresponded to women (66.23%). With regard to distribution by age, as expected there is a greater weight of those students aged between 18 and 25, representing almost 90%, with students over 25 years of age having a lower weight (9.09% between 26 and 35 and 1.30% over 36 years of age). Given the face-to-face nature of the survey, as confirmed later, the sample is only representative of those students who attend class regularly. A future task would be to create a survey that could be completed via the web platform which would enable those students who do not attend class regularly to also participate in the survey.

The processing of the survey begins with the profile of the students who access tourism studies courses, before addressing different aspects of interest and their interaction with the use of learning technology tools.

#### *Profile of students who access tourism studies.*

The results of the survey reveal that the students accessed tourism studies on the whole through studying the humanities and social science bachillerato option (university preparation) (61 %), followed a long way behind by those who studied the science and technology bachillerato option (14.47%). Professional training and others (over 45 years of age) represent 20%, equally distributed, and those tourism students who studied the arts bachillerato option are in the minority, representing, to date, less than 4% of the sample. The contingency table shows that this pattern of behavior for accessing tourism studies is similar between men and women as there are no significant differences between the two sexes.

#### *Technological skills in Internet use.*

A fundamental objective of the study was to determine the technological skills in using the Internet, which was fulfilled by asking about the frequency and intensity with which the student connected to the Internet, the resources used and the objective of the use of the resources.

The data reveal that a surprising majority of students (86%) use the Internet several times a day and practically all of them go online at least once a day with identical patterns between men and women with respect to the number of times that the students connect to the Internet. With respect to intensity, the highest frequency was recorded for those who connect for more than 3 hours a day (33.73%), followed closely by those who connect for between 1 and 2 hours a day (25.97%), while hardly 6% of the sample go online for less than 30 minutes a day. There are no significant differences between the sexes with regard to the intensity of use.

Considering the use given by students to this tool, the Internet is mainly used for consulting the virtual campus (100 per cent of students), for reading and sending emails (92.21%), exchanging files (89.47%) and participating in forums and social networks (92.71%) while chats are used less frequently (64.94%) by the students. With respect to those tools that were designed for educational purposes by the subject heads, the survey reveals that their use by the students is significantly lower than those previously mentioned, with Wikipedia being used by 71.43% of students and the participation in blogs (apart from the subject's blog) is much lower at 31.17%. The use of the wiki is



similar for men and women (69.2% by men and 72.5 by women), while in the case of the blog, women use it slightly more (35.3%) than men (23.1%). In accordance with the proposals defined in the afore-mentioned qualitative analysis, these data may give rise to a reflection of the suitability of blogs in general as a student-friendly educational tool and the need to transmit knowledge through platforms with which students are more familiar, such as social networks.

**Table 1: General use of technological resources by the students**

Resource used	% who use the resource	% who do not use the resource
Virtual campus N=77	100.00	0.00
E-mail N=77	92.21	7.79
Chat N=77	64.94	35.06
Wikipedia or other wikis other than the subject's own wiki N=77	71.43	28.58
Blogs apart from the subject's own blog N=77	31.17	68.83
Exchange / Downloading of files N=76	89.47	10.53
Forums / Social networks N=77	92.21	7.79

Source Authors.

The vast majority of students use the Internet in the university (80.52%), in their homes (94.81%) and with less frequency in the library (64.94%). Obviously, the frequency with which students use the Internet in their work place is much lower (19.74%) and in other places (32.89%). With regard to the purpose of Internet use by tourism students, the main reason is for studying (100%), but also for friendship (88.31%), followed by the reading of information or newspapers (77.92%), leisure or games (69.74%) and other uses (61.84%). There are no significant differences in behaviour between men and women in these aspects.

*Academic history and its relationship with the use of technological tools for learning.*

A series of questions sought to relate the academic background of students with the use and frequency of use of the Internet and their evaluation of the technological teaching tools implemented during the year. An analysis of the responses to these questions reveals that the majority of the students (72.73%) studying tourism had not repeated any years of the previous academic cycle (bachillerato or Professional Training). The percentages are practically identical for men and women. Of the 27.27% of repeating students, most of them had only repeated one year (70.83%). The average grade obtained for the final year of the previous academic cycle confirms that tourism students belong to the average scoring group with an average grade of between good and very good. More specifically, 46.68% of students obtained "good" while 36.84% obtained "very good". The two ends of the scale are less frequent, as barely 4% of students obtained an "outstanding" or "distinction" grade and 10.53% obtained a "pass" grade. To this respect a clear pattern can be observed between men and women, with the latter obtaining a higher average grade (44 per cent of women obtained a "very good" score)

than men (only 23% obtained a “very good” average grade), while the frequency of pass grades among men (19.2%) is considerably higher than for women (6%).

A question was also included referring to the performance of the students during the last academic year. The results show that the majority (68.79%) of students who responded (n=70) passed all the subjects in June, 20 per cent passed some subjects in September and 11.43% still had not passed some subjects.

*Extra time spent on the subject.*

The time spent at home each day on carrying out projects and practical exercises of the subject is between 1 and 2 hours (40.26%) for the majority of students or between 2 and three hours (23.38%). With respect to the two extremes of the scale, approximately 20% claim that they spend less than 1 hour a day on the subject and another 16% say that they dedicate more than 3 hours of their time each day to it. Again, statistically significant differences in behavioural patterns can be observed between men and women, with men dedicating less time than women to the subject. As already mentioned, the survey was conducted among students who attend both the theoretical classes (96.1%) and practical classes (88.31%) regularly.

**Table 2: Time spent at home on the practical content of the subject.**

	Less than 1 hour	1-2 hours	2-3 hours	3 or more hours
Men	34.6	46.2	11.5	7.6
Women	11.8	37.3	29.4	21.6

Source: Authors.

With respect to grants, it was revealed that 37.5% of those who responded the question (N=72) received some type of study grant. However, it may be observed that unlike the sex of the students, this factor does not affect the time spent on studying the subject at home.

Tourism students do not require the support of private or academy classes, given that 84.42% claim that they do not attend any type of reinforcement class.

*Family educational background.*

Another group of questions sought to determine the family educational backgrounds of students in order to evaluate whether the family environment conditioned attitudes towards the use and evaluation of new technologies as a teaching tool.

The responses regarding the level of schooling of parents reveal that the majority of students come from families where parents do not have any education or only primary education, which is a general trend for Spain as a whole.

**Table 3: Family background. Educational level of parents.**

%	Father's level of education	Mother's level of education
No education	31.58	20.00
Primary education	22.37	34.67
Secondary education	27.63	34.67
University diploma	6.58	5.33
Degree, engineer or architect	11.84	5.33
NS (number of surveys)	1	2

Source: Authors.

**Table 4: Family background. Appropriateness of training levels – parent's jobs.**

%	Father's job	Mother's job
Appropriately trained	60.81	53.52
Over-educated	13.51	38.03
Under-educated	25.68	8.45
NS (number of surveys)	3	6

Source: Authors

On the whole, the students consider the job position held by their parents to be appropriate to their level of training, although in the case of their mothers, a significant percentage have a higher level of education with respect to that required for the job that they perform.

Those students who have older brothers and/or sisters (N=44) were asked about the level of education that they had obtained or were in the process of studying. The results reveal a predominance of those studying at university level (54.55%).

#### *Evaluation of the technological teaching tools proposed. The wiki and the blog.*

The evaluation of the technological tools took the form of a question with the possibility of answering with a Likert scale ordinal categorical variable (0-5) for each of the items evaluated where 5 is the maximum possible score. Assuming a continuous structure in the latent variables which would give rise to observed discrete responses, the results obtained are presented with the arithmetic mean, the median and the standard deviation of each of the elements.

The responses obtained reveal that the students give an intermediate score to the tools proposed to improve their learning of the subject with average values in all cases. The highest average obtained was in the evaluation of the wiki as a tool to facilitate learning

(2.84), while the lowest value corresponded to the format of the wiki (2.28). In general, it seems that the predisposition towards the tools proposed is favourable (scores slightly higher than the average for items regarding participation), although the students believe that the format of the tools could be improved to make them more attractive and helpful to the learning process. In light of the results obtained, the possibility of offering the contents and teaching interaction through alternative communication channels such as the social networks should not be ruled out. It is in these channels where today's students are more participative, rather than in the more traditional channels such as the blog or the wiki.

**Table 5: Evaluation of the Wiki and the Blog as educational tools.**

Evaluation	N	Mean	Median	Standard Deviation
Score for how the wiki helps the learning process	38	2.84	3	1.26
Score for how the blog helps the learning process	38	2.63	3	1.23
Score for format of the wiki	35	2.28	3	1.13
Score for format of the blog	39	2.79	3	1.10
Is the wiki a good idea?	36	2.72	3	1.16
Is the blog a good idea?	39	2.74	2	1.29
Would you participate in other wikis?	38	2.78	2.5	1.45
Would you participate in other blogs?	36	2.36	2	1.47
Does the wiki make the subject more appealing?	36	2.52	2	1.18
Does the blog make the subject more appealing?	28	2.64	2.5	1.22

Source: Authors.

## Conclusions

The application of new technology to higher education is undoubtedly an essential element for improving the teaching-learning processes in our universities. Furthermore, its widespread use enables students to improve their technological dexterity and skills for which there is a growing demand in our society.

In this study we have analysed the use of the blog and the wiki as educational resources in teaching the Tourism Degree, seeking to evaluate the attitude of the students towards this new element proposed by the lecturers of the material and assessed as part of the overall grades.

From a qualitative point of view, it may be observed that the incorporation of the wiki and the blog were well received and used by the students. Furthermore, the motivation that they generated, together with the knowledge acquired were maybe the greatest value added of the process incorporated into the final training of the students, as it is just as important to facilitate their revision and knowledge assimilation processes as it is to instil in them the desire to study more in the future.

From a quantitative point of view, the results reinforce the qualitative impressions expressed by the students. Therefore, it may be observed that these results confirm the suitability of the blog as a student-friendly educational tool and the need to transmit knowledge through platforms with which students are more familiar with, such as the social networks.

Generally speaking, it seems that the students have a favourable predisposition towards the tools proposed (scores slightly higher than the mean in the items referring to participation), although the students consider that the format of the tools could be improved to make them more attractive and helpful to the learning process. In light of the results obtained, the possibility of offering the contents and teaching interaction through alternative communication channels such as the social networks should not be ruled out. It is in these channels where today's students are more inclined to participate, rather than in channels such as the blog or the wiki which have been used until now. However, the adoption of new teaching-learning methods including information and communication technologies has enabled students of economics in the tourism degree to make contributions and carry out a feedback of the knowledge learned both with their teachers and with their fellow students through the use of the blog and the wiki accessed via the Internet. This type of technological-educational instrument facilitates the continual reinforcement of the contents and the participation of students, the majority of whom are highly familiar with the use of ICTs.

## **Bibliography**

Bain, K. (2005): *Lo que hacen los mejores profesores universitarios*. Publicaciones de la Universidad de Valencia.

Biggs, J. (2005): *Calidad del aprendizaje universitario*. Madrid. Narcea.

Cabero, J. (2007). *Tecnología Educativa*. Madrid: McGraw Hill

Castañeda, R.J. (2000) El profesional universitario del siglo XXI: las nuevas tecnologías de la información y las comunicaciones como herramientas para la formación continua y la mejora docente, *Revista de Enseñanza Universitaria*, 16, 31-38.

Castejón, J.L. and Navas, L.(1996): *Fundamentos Psicopedagógicos para el profesor*. Editorial Club Universitario.

Castejón, R. (1998): *Medios y técnicas en la enseñanza de cursos introductorios de economía*, UNED.

- Ceballos, C.; Arias, C., Ruiz, A. Sanz, C. y Vázquez, I. (2010): La formación en turismo en España: Pasado, presente y futuro en el nuevo Espacio Europeo de Educación Superior, *Cuadernos de Turismo*, (25)
- Costen, W.M.(2009): The value of staying connected with technology: An análisis explorin the impacto f using a course management system on student learning. *Journal of Hospitality, Leisure, Sport&Tourism Education*, 8 (2) pp.47-59.
- De Miguel, M. (2006): *Metodologías de enseñanza y aprendizaje para el desarrollo de competencias*. Alianza editorial.
- Estebanell, M., Ferrés, J. (1999): Uso de Internet en la formación universitaria. *Revista Educar*, 25, pp. 131-149.
- García, J.V., Pérez, M.C. (2008): El grado de turismo: Un análisis de las competencias profesionales, *Cuadernos de Turismo*, (21)
- Sigala, M. (2002): The evolution of Internet pedagogy: Benefits for tourism and Hospitality education, *Journal of Hospitality, Leisure, Sport & Tourism Education*, 1(2), 29-45.

## ANNEX - SURVEYS

### **BLOG WIKI OPINION SURVEY (ANALYSED WITH ATLAS)**

BRIEFLY AND VOLUNTARILY RESPOND TO THE FOLLOWING QUESTIONS ABOUT THE BLOG AND THE WIKI

A.-What type of technological instruments do you believe would be a good idea to incorporate in the classes apart from wikis and blogs?

B.- What would you change in the wiki and/or the blog to improve them? (With respect to the format, design, the method of participating, the issues addressed....everything in general...)

C.- What did you most like about the wiki? And the blog? (With respect to the format, design, the method of participating, the issues addressed....everything in general)

D.- What did you like the least about the wiki? And the blog? ¿ (With respect to the format, design, the method of participating, the issues addressed....everything in general)

E.-Any other suggestion, idea or observation that you would like to make:

### **GITETUR SURVEY (QUANTITATIVELY ANALYSED)**

**1.-Sex:** A [Male] B [Female]

**2.-Age:** A [18-25] B [26-35] C[ 36-45] D [Over 45]

**3.-Accessed University from:**

A [Bachillerato - arts]

B [Bachillerato – science and technology]

C [Bachillerato – humanities and social sciences]

D [Professional Training]

E [Others, over 24, 40 or 45 years of age, COU (former university preparation course), etc.]

**Technological skills and Internet use:**

**4.-Number of times the student connects to the Internet**

- A [Several times a day]
- B [5 – 7 times a week]
- C [2 – 4 times a week]
- D [Once a week]
- E [Less than once a week]

**5.-Time spent using the Internet in minutes per day**

- A [Up to 30 minutes per day]
- B [31-60 minutes per day]
- C [61-120 minutes per day]
- D [121-180 minutes per day]
- E [More than 180 minutes per day]

**Resource used –each one is a question-**

**6.-Virtual Campus** A[Yes] B[No]

**7.-E-mail** A[Yes] B[No]

**8.-Chat** Yes[A] B[No]

**9.-Wikipedia or other wikis apart from the tourism wiki of the subject** Yes[A]  
B[No]

**10.-Blogs apart from the tourism blog of the subject** Yes[A] B[No]

**11.-Exchange/Download of files** Yes[A] B[No]

**12.-Forums/Social Networks (Facebook, etc.)** Yes[A] B[No]

**Place where the student uses the Internet**

**13.-University** A[Yes] B[No]

**14.-At home or homes of others** A[Yes] B[No]

**15.-Library** A[Yes] B[No]

**16.-Workplace** A[Yes] B[No]

**17.-Other** A[Yes] B[No]

**Purpose of using the Internet:**

**18.-Leisure, games** A[Yes] B[No]

**19.-Study** A[Yes] B[No]

**20.-Information, newspapers** A[Yes] B[No]

**21.-Friendship** A[Yes] B[No]

**22.-Other** A[Yes] B[No]

**23.- With respect to his/her previous studies, has the student repeated any years during the bachillerato or Professional Training cycle?**

A[Yes]

B[No]

**24.- If the previous answer was “yes”:**

A [He/she repeated one year]

B [He/she repeated more than one year]

**25.-With respect to the last academic year:**

a) The student passed all the subjects in June

b) The student passed some of the subjects in September

c) The student still has not passed all the subjects

**26.-What was the student’s average grade in the last year of bachillerato?**

a) Distinction or outstanding

b) Very good

c) Good

d) Pass

**27.-How much time does the student spend at home each day on the projects and practical exercises of this subject?**

- a) Less than one hour
- b) Between one and two hours
- c) Between two and three hours
- d) Between three and four hours
- e) More than four hours

**28.- Does the student attend the theoretical classes of this subject regularly?**

- a) On the whole attends regularly
- b) Misses quite a few classes
- c) Does not attend

**29.- Does the student attend the practical classes of this subject regularly?**

- a) On the whole attends regularly
- b) Misses quite a few classes
- c) Does not attend

**30.-Does the student receive any study grants?**

- a) Yes
- b) No

**31.-Does the student receive private classes or attend any complementary teaching centres such as an academy?**

- a) Yes
- b) No

**32.-In relation to the education of the student's father:**

- a) Did not complete basic education (no education)
- b) Completed primary education (basic education)
- c) Completed secondary education, bachillerato or professional training
- d) Has a university diploma (teaching, technical engineering, nursing,

etc.)

- e) Has a university degree (graduate, engineer or architect).

**33.-Does the student consider that his/her father is working n a job that is:**

- a) appropriate to his training and education (appropriately educated)
- b) beneath his training and education, that is, he is working in a job that requires a lower level of training than he has (over-educated)
- c) above his training, thanks to his experience and performance he occupies a position for which a higher level of training is usually required (under-educated).

**34.- In relation to the education of the student's mother:**

- a) Did not complete basic education (no education)
- b) Completed primary education (basic education)
- c) Completed secondary education, bachillerato or professional training
- d) Has a university diploma (teaching, technical engineering, nursing,

etc.)

- e) Has a university degree (graduate, engineer or architect).

**35.- Does the student consider that his/her mother is working n a job that is:**

- a) appropriate to her training and education (appropriately educated)
- b) beneath her training and education, that is, she is working in a job that requires a lower level of training than she has (over-educated)
- c) above her training, thanks to her experience and performance she occupies a position for which a higher level of training is usually required (under-educated).



**36.-(Only if the student has older brothers and/or sisters). The level of education that they have obtained or are currently studying** (in the case of more than one sibling where each has studied or is studying a different course, mark the option corresponding to the sibling who has studied / is studying the highest academic level):

- a) Has not completed basic/primary education
- b) Completed basic/primary education
- c) Bachillerato
- d) Professional training
- e) Has completed or is studying a university education

**ONLY FOR THOSE WH HAVE TAKEN PART IN THE WIKI OR BLOG**

**Score of 0 to 5 (where 5 is the maximum score)**

37.	Evaluate, from 0 to 5 (0=A,1=B, 2=C, 3=D, 4=E, 5=F), how participating in the wiki has helped your learning process.
38.	Evaluate, from 0 to 5 (0=A,1=B, 2=C, 3=D, 4=E, 5=F), how participating in the blog has helped your learning process.
39.	Evaluate, from 0 to 5 (0=A,1=B, 2=C, 3=D, 4=E, 5=F), the format of the wiki.
40.	Evaluate, from 0 to 5 (0=A,1=B, 2=C, 3=D, 4=E, 5=F), the format of the blog.
41.	Evaluate, from 0 to 5 (0=A,1=B, 2=C, 3=D, 4=E, 5=F), the extent to which you believe the wiki to be a good idea..
42.	Evaluate, from 0 to 5 (0=A,1=B, 2=C, 3=D, 4=E, 5=F), the extent to which you believe the blog to be a good idea.
43.	Would you like to continue participating in other wikis in the future? (0=A,1=B, 2=C, 3=D, 4=E, 5=F)
44.	Would you like to continue participating in other blogs in the future? (0=A,1=B, 2=C, 3=D, 4=E, 5=F)
45.	To what extent do you believe that the wiki has made the subject more appealing? (0=A,1=B, 2=C, 3=D, 4=E,

	5=F)
46.	To what extent do you believe that the blog has made the subject more appealing? (0=A,1=B, 2=C, 3=D, 4=E, 5=F)

# THE ASSESSMENT OF CULTURAL EXPERIENCE THROUGH LEARNING PROCESSES: A MODEL FOR INDIVIDUAL, FIRM AND TERRITORY SYSTEM VIABLE COMPETITIVENESS

**Carmen Gallucci**, Associate Professor of Corporate Finance, University of Salerno, Italy  
[cgallucci@unisa.it](mailto:cgallucci@unisa.it)

**Piera Bellelli**, PhD Student, Marketing & Communication, University of Salerno, Italy  
[pbellelli@unisa.it](mailto:pbellelli@unisa.it)

**Giuliana Sacca**, Management consultant Marketing & Communication, Salerno, Italy,  
[giuliana.sacca@yahoo.it](mailto:giuliana.sacca@yahoo.it)

## 1. Introduction

The ongoing process of dematerializing value assets characterizing post-modern society highlights the considerable changes facing post-industrial economies as a consequence of the global crisis that has redefined the complex competitive context, whereby the market and even society itself needs rethinking. If it is true that in the current global scenario “market for goods” has been replaced by the concept of commodity with value, then Economics (as the subject that studies the laws (*nomoi*) of our environment (*oikos*) needs to appraise what is really significant for our system and for its evolution and above all, what can be considered sustainable (Bencivenga, 2004). The creation of a new business model capable of revitalizing the worldwide economy, creating competitive advantage and individual and collective growth should connect *individual, firm, territory* in a value co-creation perspective in which all stakeholders are involved. It is no longer profit or personal benefits that drive economic strategies but rather, knowledge should be the starting point to sustain creative economies that feed on human potential, the only non-scarce resource<sup>1</sup>. A change in paradigm at this stage is imperative, based on an innovative concept (from Latin *in-illativo* and *novare*, from *novus*, new) a catalyst for individual and collective activities making the *think/act* approach vital for entrepreneurial knowhow and competence a key factor in creating a new business model in a perspective of competitive advantage and consonance (Golinelli, 2010). Innovation is generally meant as technological innovation, but if this meaning is detached from the cybernetic view, the real meaning becomes clear: new ways of thinking and acting (*in-novo*, something new, *teknè*, modalities). It is of vital importance the awareness that development and modernity are not exclusively driven by product innovation and market demand (Caselli, 2011). In an ever more competitive and complex scenario, knowledge based innovation where knowledge considered dynamically and creatively becomes a vector of change. Knowledge is the key factor in creating individual and collective wealth. This confirms Drucker’s theory which in the 1960s coined the term “*knowledge economy*” and predicted an epoch-making social changes due to the pervasiveness and the impact of new technologies and communication. The purpose of this study is to assess new business models and their outcome in the *individual, firm, territory* system, addressing attention to wealth and growth from a learning and knowledge intensity perspective both at individual and collective level.

---

<sup>1</sup> The Nobel prizewinner Gary Becker says “*Human resources, information, knowledge, shared values embedded in behavior are significant for economic development (...) it is true for an economic system as a whole and above all for each firm that is the mother cell*”. Translation of Pininfarina A., “La conoscenza come fattore competitivo nell’impresa industriale”, *Sinergie*, 76/2008, p. 20.

## 2. Literature Review

In recent years, the global economic crisis, the pervasiveness of technology and growing attention to immaterial economic assets (Rullani, 2004) has led to an epoch-making change, shifting the industrial economy towards the knowledge economy. It has placed emphasis on overcoming the purchasing concept as a property of good/services, focusing instead on the concept of access to the product-experience (Rifkin, 2000). This change in perspective in marketing studies from 1957<sup>2</sup> - where the bias is towards tangible goods - shifts towards services as the “*purpose of economic exchanges*” (Vargo & Lusch, 2004). “*Services are exchanged for services*”, focus is not on the product, but on the co-creation of value (Gronroos, 2000) between firm and individual. Value from a natural relational process of accumulation, is consequently shared and re-created into the social context. The consumer, between hedonistic impulses and holistic involvement (Addis, 2005) has a central and active role and the building process of his identity is linked even more to the collective dimension and to the pursuit for new values: *efficiency, play, appearance, excellence, reputation, status, spirituality* (Hoolbrook, 1999). Value attribution moves on consumer experience<sup>3</sup> interpreted by the experiential view as activities to find “*fantasies, feelings and fun*” (Holbrook and Hirschman 1982). The experience economy defines experience as a different form of economic offering to goods, services and commodities and a new advanced stage in the value creation process<sup>4</sup> (Pine & Gilmore, 1999). However, this firm-oriented<sup>5</sup> (Pine & Gilmore, 1999) perspective seems to pay little attention to the consumer role in terms of being the main actor and creator of experiences, in other words, the prosumer<sup>6</sup>. In a context in which the contrast between goods and services – that become “*offerings*” (Gummesson, 1995) – and consumers and producers is disappearing, the consumer experience is core both in demand and supply and in the interaction between consumers and the context. In the literature several studies point this out (Schmitt, 1999, 2003; Addis e Holbrook, 2001; Milligan and Smith, 2002; Smith and Wheeler, 2002; Carù and Cova, 2003; LaSalle and Britton, 2003; Prahalad and Ramaswamy, 2004; Shaw and Ivens, 2005) defining customer experience as new leverage in the value creation process both for firms and consumers. Experiential marketing “*a customer focused concept*”<sup>7</sup>, distances itself from the experience economy and refers to the modularity of mind<sup>8</sup> accomplished in an holistic perspective<sup>9</sup>:

---

<sup>2</sup> “The importance of physical products lies not so much in owning them as obtaining the services they render”, Philip Kotler 1977, SDLogic.net , www.sdlogic.net/.

<sup>3</sup> “The Customer Experience originates from a series of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction (LaSalle and Britton, 2003; Shaw and Ivens, 2005). The experience is strictly personal and implies the customer’s involvement at different levels (rational, emotional, sensorial physical and spiritual) (LaSalle and Britton, 2003; Schmitt, 1999). Its evaluation depends on the comparison between a customer’s expectations and the stimuli coming from the interaction with the company and its offering in correspondence with the different moments of contact or touch-points (LaSalle and Britton, 2003; Shaw and Ivens, 2005).”, iC.Gentile, N.Spiller, G.Noci, How to Sustain the Customer Experience, *European Management Journal* , Vol. 25, No. 5, p.397.

<sup>4</sup> Economic activities are “*turned into a show*” to engage the consumer from an emotional point of view. It is possible to “*ing the thing: any good can be inged*”, Pine e Gilmore, 1999, pp. 18 ss., 52 ss.

<sup>5</sup> The Pine&Gilmore approach, in our opinion, gives emphasis to firms in the value creation process relegating consumer to a spectator-user role. In actual fact, experience is not planned by the firm, but is co-created with the consumer.

<sup>6</sup> Consumer is co-producer if production is considered in a continuum that goes from production to consumer, Vargo, R.F. Lusch “Evolving towards a New Dominant Logic for Marketing”, *Journal of Marketing*, 68(1), pp. 1-17, January 2004.

<sup>7</sup> “Interview on Experiential Marketing with Prof. Schmitt Bernd” <http://english.cri.cn/3130/2007/09/18/262@275168.htm>.

<sup>8</sup> Modularity of the mind is connected to experience multidimensionality and it is recognized in medical literature in which experience is meant as cognitive, sensorial, and emotional created by stimuli. (Gentile, Spiller, Noci, 2007).

the individual is engaged in “*three basic systems – sensation, cognition and affect – each with its own structures, principles and mutual interactions*” (Gentile, Spiller, Noci, 2007). “*As everything is becoming branded, everything becomes a form of communication and entertainment*”: prosumers looking for something that can ‘*dazzle their senses*’, ‘*engage them personally*’, ‘*touch their hearts*’ and ‘*stimulate their minds*’ (Schmitt, 1999), whilst indulging in ‘*fantasies, feelings and fun*’ (Holbrook and Hirschman, 1982)<sup>10</sup>. Experience, in all its forms, cultural, recreational i.e. *edutainment*, becomes the propulsive source of the virtuous cycle *knowledge, creativity, innovation* from which new forms of knowledge can be created (Kolb, 2007), triggering learning processes that through the recombination of cognitive and emotive factors, contribute to developing human potential, both individual and collective.

The general and pervasive centrality of knowledge driven by experience is a unique viable product-service in a market and society in which the means and the ends fit perfectly together: value co-creation, the satisfaction of actors all involved in a systemic vision (Golinelli, 2010) of growth and development together. This perspective promotes a generally strong change in the management, but above all in the marketing strategy leading to forms of responsibility looking beyond profit (Baccarani, Giaretta, 2000). “*In an economy where the only certainty is uncertainty, the one source of lasting competitive advantage is knowledge*” (Nonaka, 2000). Knowledge is a factor which has no unique definition, is considered a strategic asset for corporate competitiveness, a key to creating in turn, new forms of knowledge, sustaining Schumpeterian innovation and learning processes.

### **3. Learning through experiences. A non conventional way: Edutainment**

If immaterial components are the primary source of the value creation process, then experience is included in human resource capital - a whole formed by potential, desires, imagination, but also knowhow and specific competences (Codeluppi, 2005). “*The creation of knowledge occurs through experience elaboration*” (Kolb, 2007), a process in which individuals do not act individually: Geertz refers to a spider’s web of meanings that humans weave around themselves and culture, in the widest sense, is the tool used by humanity to reinterpret, reproduce and enhance this web that acquires value only if shared (Rifkin, 2010). These new forms of collaboration among actors of the culture-territory system (Arnould, Price, Zinkhan, 2002) highlight the strong connection between culture and marketing, evidenced by the strong demand for symbolic offers with great relevance of experiential attributes (Schmitt, 1999). If knowledge is created by personal experience and from its transformation, then it is the modality with which people process their experiences by virtue of individual, collective and context factors (Kolb, Fry, 1975) that affects the learning process. If achieved in a recreational and emotive dimension, characterized by creative and innovation elements, experience has a positive effect on learning processes (Petruzzelli, 2004). Experience from being merely formative becomes cultural, thanks to a model of *cultural entertainment* suggests the development of the experiential concept by breaking down the general pattern and traditional context of learning. Experiential learning is seen by

---

<sup>9</sup> “*Much of our individual perceptions and experiences are viewed holistically. Navon (1977) provides a simple empirical demonstration of this hypothesis. In his experiment, participants were presented with the diagram of the letter ‘H’ made out of smaller ‘S’ letters. Participants perceived the image holistically as H before spotting the smaller letters*”. For Navon (1977), this ‘principle of totality’ explains that human perception is global and takes into account all physical, sensory and cognitive aspects into one holistic unit, Hosanay, Witham, Dimensions of Cruisers’ Experiences, Satisfaction and Intention to Recommend, 2009.

<sup>10</sup> A further study on experience, in addition to branches of studies previously mentioned, propose a framework to classify experiential leverages as *functional clues* (accessibility, comfort, layout, ecc.) and *emotional clues* engaging emotional mind dimensions evoking affective reactions. Both categories have to be used in an integrated way to engage different parts of the organization and workers in their interaction with customers., Berry L.L., Carbone L.P., Haeckel S.H., “Managing the total customer experience”, *Mit Sloan Management Review*, vol. 43, n. 3, Spring, 2002.

BrookField (1983) in a dual manner: “*a direct experience studying events, rather than simply observation of them*” (Borzak, 1981), and “*learning occurs during direct participation in life events*” (Houle, 1980). The centrality of a person, in individual and collective behavior, defined by Dewey, Piaget and Karplus, is considered a key factor by Kolb (1984) who integrates previous theoretical contributions and highlights the experiential element. Learning is configured as a social process, no longer related to a scholastic setting, but as a widespread method in everyday life situations and consumption. If it is possible to learn from experience, then it is possible to create learning processes from experiential forms of *edutainment*<sup>11</sup>, a merging of the terms *education* and *entertainment*<sup>12</sup>. From Cicero<sup>13</sup> to the “*Play theory*” (Huizinga, 1950), *edutainment* becomes the leverage to create value, in a cultural way for individuals, at an economic level for organizations, and at a social level for territories, in a systemic perspective. Its strong link with cultural aspects results in *edutainment* taking a different form in each geographical area (Veltman, 2004)<sup>14</sup>. In Italy, the concept of *edutainment* develops defining widespread activities on a *continuum* that goes from full entertainment forms (games, console and videogames, etc) to e-learning and multimedia systems. There is a series of cultural events (exhibitions, festivals, concerts, etc.) representing a form of *event edutainment* giving a viable contribution to intellectual individual growth, above all collective, through sharing and comparison with territory (Paiola & Grandinetti, 2009). Culture becomes the framework in which knowledge acts and develops, turning out to be essential for firms capable of rethinking new business models. This supports the evidence that intangible assets such as intellectual and human resource capital are growing sources for firm competitive potential in a *Knowledge Management perspective* (Tardivo, 2008). Links between culture, social relations and territory seem to be natural and need to enable immaterial experience to materialize into the tangible assets of the territory which in turn, confers on it a unique and inimitable dimension.

#### **4. Prosumer of experience, building individual and collective identity through *knowledge-creativity-innovation* and through *individual-firm-territory* system**

If it is true that the experience in cultural-based learning processes is directed towards a holistic dimension that reallocates individuals to a central position, then its identikit needs to be understood. In effect, each economic and social change renders all analytical consumer frameworks inadequate thus identifying a “*new type of consumer*”. The continuous and exponential growth of the role of consumers, both as individuals and as groups endowed with several competences, has triggered value creation processes that shift from the approach «*market to*» to the «*market with*» (Carù, Cova, 2011). The change in consumer processes is a leitmotiv going through the last twenty years of marketing literature (Badot, Cova, 1992; Baker, 2003; Ferrero, 1990) and recently has focused on the “*consumer-actor*”, known as prosumer or post-consumer, or rather «*a consumer that co-plays an active part in the production by becoming a buyer*» (Zorino, 2006). After an initial period in which the consumer was characterized by an individualistic approach (*cocooning*)

---

<sup>11</sup> To the word education is added entertainment as “*fun in a general way*”. Referring to McLuhan (1960): “*it is absolutely misleading to make a distinction between education and entertainment*”. The latin word “*e-ducere*” meaning literally “*to bring out*”, describes the process through which individuals receive and learn not only notions but also behavior rules and abilities shared among the family and the wider social context, while “*learning*” a derivative of “*to grasp with the mind*” underlines the active part of the process.

<sup>12</sup> Entertainment means “*show*” (or rather TV entertainment, theatre, music, radio, etc) and in the Anglo-Saxon sense the terms means fun and free time activities.

<sup>13</sup> Cicero, in the *De optimum genere oratorum*, was the forerunner integrating both teaching and entertainment activities to test effects on people.

<sup>14</sup> We can define two different approaches: the Oriental that aims to stimulate the group, while the Occidental focuses on the individual, “*Edutainment, technotainment e cultura*”, K. H. Veltman conference “*Cultura in Gioco. Le nuove frontiere di musei, didattica e industria culturale nell’era dell’interattività*”, Firenze 2004.

(Lyotard, 1979), the utilitarian and instrumental consumer vision gave room to the experiential and recreational view (Holbrook e Hirschman 1982; Bourgeon, Filser, 1995; Filser, 1996). «*Consumption has become a game*» (Hetzl, 2002) and the consumer both actor and player: playing with brands and products of firms, in the space provided by them (Carù, Cova, 2011) in a close network of social interaction while the consumer-firm value production process becomes the key factor in the S-D Logic view (Vargo, Lusch, 2004; 2006). Socio-economic and cultural changes have a great influence on values, lifestyles and consumers, arousing more awareness on certain topics. The focus has moved towards immaterial assets and the growing value of emotional and experiential consumption. Not only goods and services, but also significance and symbols are integrated and reinterpreted through resources offered by firms, individuals and groups (Vargo, Lusch, 2008) to co-create and co-elicite consumer experience value, continuously reinventing personal experience (Borghini, Carù, 2008). It might be inaccurate to refer to “*consumer*” because the term presupposes the isolation of the consumer function from individual values, behavior and addiction<sup>15</sup>. Actually, the value of products and brands (Arvidsson, 2006) is based on immaterial elements ever more a characteristic of consumers, first of all in creating a strong link with the brand making group and sharing its passion, rather than as producers. The post-modern consumer, in the new complex global scenario, becomes a prosumer, merging two contrasting concepts, producer and consumer and describes their active role in the process of creation, production, distribution, consumption. In terms of significance and the value creation process, all these are collective because they are re-created and shared in a social dimension.

The prosumer, originally found in Toffler's studies (1980)<sup>16</sup>, is at the same time both the recipient and creator of experience that pursuant to an individual process of attribution of meaning, is re-created through crowdsourcing<sup>17</sup> becoming something completely different from the sum of individual experiences. Furthermore, with the Web 2.0 platform the profile of prosumer evolves towards that of adprosumer<sup>18</sup>, from the merging of three figures, *consumer*, *producer* and *advertiser*, integrating and underlining the viral and communication features where the consumer also becomes the “promoter” of personal experience, positive or negative, shared in the relationship network (Maldonado, 2008). In other words, if the shifting from G-D Logic to S-D Logic has transformed the consumer into a prosumer, then the next step focusing on experience, involves a new individual that can be defined as experience *adprosumer*; the main actor of experience creation in a co-creation approach that engages *individual*, *firm*, *territory* system in the Experience Provider (Ex

---

<sup>15</sup> “*Consumption is a complex activity that involves lifestyle, use of time and energy, investment in knowledge and information, ability to relate to others and sense of identity, all in all they are dimensions that cannot be compressed into the monetary variable*” Bianchi M., Introduction to The Joyless Economy, di T. Scitovsky, 1992 (rev.), Oxford Press.

<sup>16</sup> Toffler defines “*prosumers as people who produce some of the goods and services for their own consumption. They can be found making their own clothes, cooking their own food, cleaning their own cars, and hanging their own wallpaper. All of these services can be purchased in the marketplace. and in fact, most people today purchase these goods and services from others. This is the essence of being a consumer. The essence of being a prosumer, on the other hand, is to prefer producing one's own goods and services.*” Kotler P., (1986), “The Prosumer Movement: A New Challenge for marketers” in *Advances in Consumer Research* Volume 13, eds. Richard J. Lutz, Provo, UT : Association for Consumer Research, Pages: 510-513.

<sup>17</sup> Crowdsourcing is the act of outsourcing tasks, traditionally performed by an employee or contractor, to an undefined, large group of people or community (a “*crowd*”). “*The basic idea is to tap into the collective intelligence of the public at large to complete business related tasks that a company would normally either perform itself or outsource to a third-party provider. Yet free labor is only a narrow part of crowdsourcing's appeal. More importantly, it enables managers to expand the size of their talent pool while also gaining deeper insight into what customers really want*”, J. Alsever, What is Crowdsourcing?, 2007.

<sup>18</sup> *Adprosumer* is defined in tourism and Web 2.0 Usually tourists can use the Internet before their trip in order to find information and make purchases; during the trip through blogs and forums and after the travel experience sharing photos, writing opinions, uploading pictures and videos and so on and this process has a relevant and a viral influence on other tourists. That is why adprosumers and word of mouth are more trusted than TV advertisements, radio, magazines, tourist webs, and tourism offices.

Pro) system perspective.

## 5. *Ex-Pro value: an universal tool for the design and planning of an experiential product/service and the assessment of redemption effects of learning through experiences*

There are new ways to “live culture”<sup>19</sup> (Kotler, 2004) and new configuration of cultural firms that through entertainment cultural-based systems find in *edutainment* their fulfillment, becoming viable learning experiences to trigger the virtuous cycle of *knowledge, creativity, innovation*. The *Interactive experience model* Falk and Dierking (2002) of cultural experiences relates to three different areas that combined should create a new experience, subjective and absolutely unique<sup>20</sup>: *personal context* acts as a filter for interpreting experience in turn linked to the *social context* and *physical context* creating a new fourth dimension, *interactive experience*. By measuring these activities, experiential learning dynamics and processes in *individual, firm, territory system*<sup>21</sup> are assessed Culturally-based experiences, embedded in the territorial dimension, (Scott, 2004; Kotler, 2004) are enriched by relevant stakeholders (Colbert, 2003) and represent a learning opportunity both for individuals and the collectivity. Experience-based learning, at the individual level, prosumer of experience and at the collective level through crowdsourcing processes, can be reinterpreted through the multidimensional map P.O.L.C. ascribing to four areas cross-cutting skills: *Problem-solving, Organization, Leadership, Communication* (F. Saccà, G. Saccà 2011). Cross-cutting skills empowerment becomes the indicator assessing redemption effects on learning processes. Four empowerment areas, to which can be ascribed technical competences and cross-cutting skills based on human factors, emotional and social intelligence, team working and team building, represent areas of continuous improvement. Problem solving and organization areas focus on critical context reading ability facilitating decision processes, creating design thinking ability; leadership and communication areas focus on intra-inter group dynamics involved in the shift from thinking to acting. If in the problem solving and organization areas there is need of a *manager thinker*, then in the leadership and communication areas it is relevant that this manager be a charismatic leader able to manage two cross-cutting skills such as intra- inter individual, emotional and social intelligence. Leadership is the area in which leaders create their own reputation and define their method of interaction, while communication is the area of influence in which leaders define their style of communication. The way in which leaders can translate their reputation into influence is the persuasiveness supporting identification (connectivity), shared approval (agreement) and choice (preference). If reputation, based on competence, ethics, character and charisma, is recognizable through authoritative, influence supposes that authoritative is performed in taking the leader from the attitude dimension to the behaviour dimension, according to the think-act approach, already highlighted in the planning dimension (problem solving – organization ). P.O.L.C. four cross-cutting skills that focus on the need for considering them as a fertile ground for creating knowledge, on the one hand knowhow and on the other hand self-competence, from which a proactive individual continuously committed to self (or within peer group) improvement originates. A new man, defined as “*centaur*”, half-manager and half-leader,

---

<sup>19</sup> “Culture is the whole complex of distinctive spiritual, material, intellectual and emotional features that characterize a society or social group. It includes not only arts and letters, but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs” World Conference on Cultural Policies (MONDIACULT) UNESCO, Mexico City, 6 August 1982.

<sup>20</sup> An example: Jaynes says that a light flash in a dark room could be perceived in different ways due to subjectivity (personal context), observation angle (physical context) and relations with context (social context). It is more or less the same when three person perceive a work art differently.

<sup>21</sup> Getz assigns different meanings at an event: *social* refers to group, sense of community or location; *cultural* refers to content, *economic* refers to investments, tourism and consumer attractiveness; *personal* refers to experience subjectivity; Getz D., *Event studies. Theory, research and policy for planned events*, Elsevier, 2007.



that cannot be set aside from soft skills improvement viable to managing relationships. Individuals are aware of the need for and importance of life long learning and they are the main actors of experiences, reinforcing their cross-cutting skills with non-conventional learning forms that sustain *unlearning and re-learning* processes. In short, both cognitive and emotional experiential aspects together, as defined by P.O.L.C., represent the theoretical framework of a conceptual model defining four different learning styles from the same experience dimensions. “*Learning is a holistic process of adaptation to the world. It is not just the result of cognition but involves the integrated functioning of the person as a whole, thinking, feeling, perceiving, and behaving*” (Kolb, 2005). The *Experiential Learning Theory* recognizes four dimensions/abilities [Concrete Experience (CE) and Abstract Conceptualization (AC) - Reflective Observation (RO) and Active Experimentation (AE)] from which four learning styles (*Learning Style Inventory - LSI*) are defined (*Diverging, Assimilating, Converging, Accommodating*). Learning is “*the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience*” (Kolb 1984). The structures of the two models enable their overlapping in which the first becomes the conceptual map of cross abilities and the second the tool measuring the value related to cultural experience in  $t_0$  (at the start) and  $t_1$  (at the end), in order to assess experience learning value, individual and collective, from the gaps registered in each area. The graph illustrates how gaps are verified in each areas:

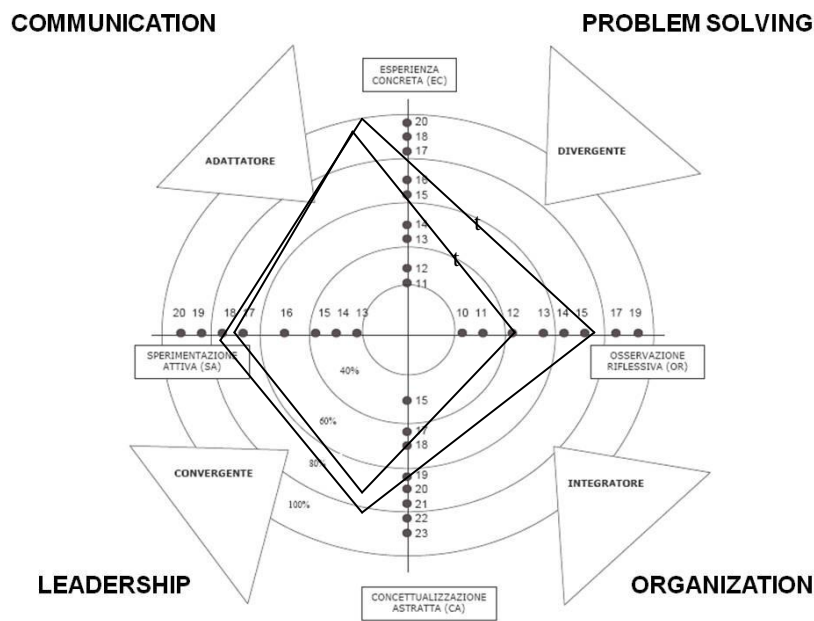


Fig.1 – Our elaboration from *LSI* (Kolb1984) and *P.O.L.C* (Saccà F., Saccà G. 2011)

A critical analysis of gaps from  $t_0$  to  $t_1$ , related to individual and collective learning, informs about the product-experience in order to monitor the same for continuous improvement. This tool can be successfully reapplied in different contexts, and through a logical approach based on the sequence of elements, measuring the experience value created by Ex-pro, provider of experience, individual and firm, for each cross-cutting ability. From this outcome, an in-depth ex-post analysis can be performed on the creation/planning process of the experiential format. Experience, created and enjoyed by individuals, in a co-creation value process, redefines the “*consumer’s experience*” through the “*Strategic Experiential Module*” (*SEM*) (Schmitt, 1999) connecting cognitive and emotional aspects

- *Sense*: elements related to sense that stimulate motivation, attitudes and beliefs (Kotler, 1994);

- *Feel*: moods, inner feelings and emotions;
- *Think*: both convergent and divergent thinking;
- *Act*: physical interactions that enriches acting-thinking and behaviour.

A fifth hybrid-holistic dimension *Relate* is identified, and it connects each dimension (*Sense, Feel, Think, Act*) to individual, collective experience and social system. *Relate* is something more than the sum of each experience. It able to create value for individuals and the territory in which the experience is performed. Experience is created by *Ex-pro*, provider of experience, represented by all components, hard and soft, and the element *People* is the most powerful, capable of creating experiential processes and learning not only for individual, but for the social context as a whole; it proposes to quantify consumer experience related to learning processes, both at an individual and collective level. The similarity of the models (P.O.L.C, *Experiential Learning Thoery* and *Strategic Experiential Module*), refers to cognitive and emotive aspects. The creation and assessment of experience enables the defining of an *Ex-pro value model* that considers the value of experience the sum of each experience provided by *Ex-pro* (provider of experience), *individual, firm, territory*, with specific reference to the reinterpretation of desirable relations among them in a sustainable approach. The integration of the three models enables the defining of a new model that highlights the virtuous cycle of *Ex-pro* measuring cultural experience value on three levels:

- *Ex Pro Individual*: (individual and collective learning value, analyzed and measured through P.O.L.C. and re-interpreted by Kolb's *Experiential Learning Theory*) –*empowerment*;
- *Ex Pro Firm*: (value of the content of product-experience, analyzed and measured through *Assessment Tools for Experiential Marketing* - Schmitt,1999); – *competitiveness*;
- *Ex Pro Territory*: (value of the context of product-experience, analyzed and measured through *Assessment Tools for Experiential Marketing* (Schmitt,1999) – *consonance*.

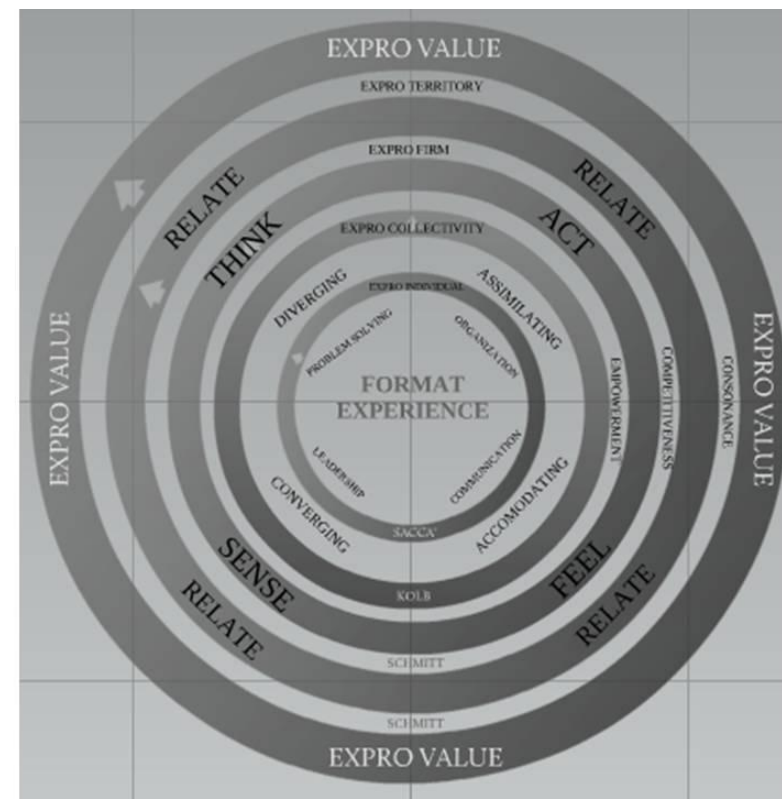


Fig. 2 - Our elaboration *Ex-Pro value*

Our research hypothesis suggests that the involvement in cultural experience, such as non-conventional forms i.e. *edutainment*, has a impact on both individual and collective learning.

Individual, (prosumer of experience and holder of knowledge), firms (facilitators of the entire experience-knowledge based process) and territory (in which it is possible to live experiences in a continuum from a traditional cultural context to edutainment), are the main actors Ex-pro, (provider of experience) in an integrated viable system to start the virtuous cycle *knowledge-creativity-innovation*, from which new forms of knowledge are created and cultural-based learning processes are supported. The *Ex-pro value* model, combining similarities of the three tools, summarizes cultural experience value created by three provider of experience (Ex-pro):

- to measure redemption effects on learning, (analyzed through P.O.L.C. and re-interpreted through the Kolb model);
- to plan and organize a product-experience format using a *learning organization* approach from learning results, considering strengths and weakness, working on factors recognized through ex-post analysis (through *Assessment Tools for Experiential Marketing* by Schmitt).

However, despite the fact that the model is a tool that can be reapplied to different contexts and in different experiential formats, it should privilege organizations defined as “*genetically innovative small enterprises*” (GISE<sup>22</sup>, Capaldo, Raffa, Rippa, 2008) that are *best practice* such as Ex-pro value. The Giffoni Experience, a pilot study which by virtue of its endogenous and exogenous characterizing features, can be considered a good example of Ex-pro value for empowerment, competitiveness and consonance.

## **6. A pilot study of *knowledge-based-cultural experience: the Giffoni Experience* assessed through the *Innovation Diamond***

Creating a new business model that combines *individual, firm, territory*, cannot go through the technological innovation concept (seen in its pristine etymological sense, meaning a *new-in-novo* course of action/method/teknè of doing things/dealing with matters) albeit erroneously and prejudicially, not considered typical of SMEs. On the contrary, tacit or latent innovation efforts on the part of SMEs are quite common but risk becoming weaker as time goes by due to deep rooted problems of an organizational cultural nature. Genetically innovative small enterprises (GISE) have to deal with alternative ways of viable storytelling to recount *hic et nunc* innovation, framing critical success factors as areas of excellence and improvements within models such as that for the pilot study *Giffoni Experience*. The model known as the Innovation Diamond (Saccà, 2010), highlights on a three-dimensional scale, the prisms relating to: *entrepreneur-resources; partner-resources; management-resources; network-resources; territorial context*.

---

<sup>22</sup> GISE is the acronym for *Genetically Innovative Small Enterprises* that in the Italian original version are called PIGI in turn acronym for *Piccole Imprese Geneticamente Innovative*.

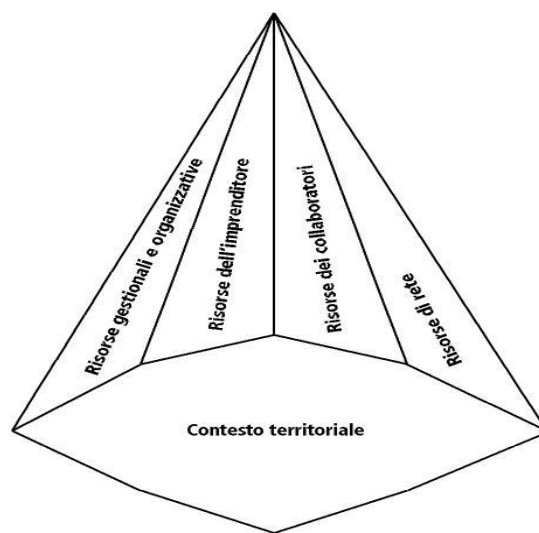


Fig. 3 – The Innovation Diamond (Saccà, 2010)

On close examination of the degree of innovation in each of the five areas, the *core* is represented by the management profile (*entrepreneur resources*). GISE entrepreneurs shift from a survival approach to a growth and development approach based on endogenous innovation forms such as an advanced level of organizational learning, highly skilled human resource recruitment and co-worker involvement in order to improve human resource and idea potential; exogenous innovation forms, based on critical interpretations of the competitive context and relational abilities through building privileged relations with sources of knowledge. In this context, GISEs see innovation as an opportunity for excellence and competitiveness rather than a risk, involving co-workers in continuous innovation processes, in conformity with corporate mission and vision. From this perspective, leadership should be capable of focusing on real competitive advantage leverages: culture, philosophy, values, strong motivation and results orientated in terms of effectiveness and efficiency (*management-resources*), in other words, an entrepreneurial perspective characterized by the ability to distinguish corporate personality as the total contribution of all stakeholders, but boosted by group identity (*co-workers-resources*) in order to sustain corporate mission. The tendency to create partnerships, collaboration, agreements and to develop a co-maker approach (*network resources*) are the main features of firms highlighting the importance of these resources; vertical integration in the supply chain of various partners; outsourcing excellence inspired and sustained by constant talent scouting activity; horizontal integration through networking and co-marketing, the life blood of the value creation process engaging all the stakeholders concerned. Moreover, the territorial context becomes the key for the firm's innovation capabilities because it enables the acquiring and managing of human, cultural, financial and economical resources, needed for value co-creation processes. Territory, as such functions an active factor, a source of collective knowledge defined by a complex network of social relations, in a well-defined geographical area and catalyzed by the entrepreneur in terms of threats and opportunities.

Notwithstanding its sequential description, the Innovation Diamond model enables a wide ranging interpretation of the firm, a snapshot illustrating the entrepreneurial idea and its sustainability. *"Firms that have reached positions of global leadership began with ambitions decidedly superior to their capacities and resources. However, they were able to instill at all levels of the organization, a genuine obsession for winning"*. (Hamel, 2008). This citation has become the proactive strategy in the Giffoni Film Festival case (GFF), established in 1997 from an idea of Claudio Gubitosi, *"Imaginary architect"* as he has been defined, capable of promoting and disseminating the Youth Cinema, restoring a specific identity to the territory and capturing an international audience. Gubitosi's great idea has in fact materialized: The Giffoni Valle Piana

International Festival of Youth Cinema the *naming* of which contains all the premises for a resounding national and international success crossing both cultural and linguistic barriers. Pirandello's ever recurring core existentialist themes, regardless of the spatial and temporal sphere, constitute the main features of the global dna of this GISE, thus responding to Friedman's teaching<sup>23</sup>. GFF is a product "*made by youngsters for youngsters*"<sup>24</sup> from a provincial town, a territory thoroughly unknown, that has successfully attracted worldwide interest. "*Giffoni has overturned the rules of the game testifying that its rural features constitute added value rather than a limit*", describing the Festival as a project originating and developed in Giffoni means likening it to its location; in truth, Giffoni Film Festival is Giffoni: a project that lives on and nourishes *individual, firms and territory* system resources. The core protagonist of GFF<sup>25</sup> is the founder and managing director, an atypical figure who has been ever present and responsible during the event, right from the beginning. Gubitosi's background, training and knowhow, cross-cutting skills and expertise make him a real demiurge<sup>26</sup> (Timeo, 28). His entrepreneurial expertise, excellent analytical abilities and a natural vocation to call everything into question, testify his desire not to celebrate the forty years of the event, but to look forward and redesign the future with the unique aim of astonishing everyone by doing it again and even better as in the event on the road, *Giffoni Celebration Tour*, taking the GFF all around Italy. This strong driving force in terms of leadership is capable of engaging all stakeholders in the arduous process of creating value. Addressing particular attention to co-workers, some volunteers through a learning by doing process have become a group of highly skilled workers. Cross skills passed on through the entrepreneur's DNA to the co-workers' DNA in a continuous bi-directional relationship, based on sharing and listening, underline the central role of the individual. In other words, it is the individual with his heterogeneous background who becomes the holder of organizational and management resources and characterizes the strong link with the territory.

A think/act approach inspired by the virtuous cycle relationship, sharing and agreement creates more speedily a willingness to change, as well as new functions and roles evolving over the years by virtue of changed organizational strategies that seem to go beyond a theoretical business model. It is thanks to "*outsourcing of excellence*" that the GFF has known how to create good relationships enhancing network-resources: on the one hand, related to cinema, on the other, Institutions and (local) Authorities engaged in learning not to mention families motivating and supporting attendance at the event. It is the individual, in this case youngsters, the core of the GFF, tuned into GFF Experience (2009)<sup>27</sup> in order to underline the experiential dimension of the event, disseminating news by means of the Giffoni Social Network (GSN) (2009). It is the deconstructing

---

<sup>23</sup> In the *Capitalism and Freedom* (1962), he says: "*There is one and only one social responsibility of business-to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud*".

<sup>24</sup> GFF, today Giffoni Experience, is an idea incubator, as well as the second most famous film festival in Italy after the Venice International Film Festival, and the planning and organizational model is the most imitated and by far the best. It is one of a few cases of a cultural event that has become the main driver of the local economy through a unique, famous, recognizable and beloved brand (*IPSOA, 2008*).

<sup>25</sup> From Gubitosi & Co. in the '70s to the first milestone in the '97 of what is to be the Cittadella del Cinema, from Giffoni Media Service srl (2000) to Giffoni Experience (2009) to achieve the most challenging project Giffoni Multimedia Valley (2013). Started in 2009, it will be finished in 2013, a think-tank of knowledge and workforce. A project for which in 2010 20 million euros were allocated in order to create the largest creative hub in the South of Italy.

<sup>26</sup> The demiurge, (from greek δημιουργός, formed by "δήμιος", or "plebeian", and "ργον", or "worker", that is public worker or craftsman); a philosophical and mythological figure.

<sup>27</sup> 150.000 attendances per year; more than 150 film feature-films, short movies, worldwide previews; 3000 jurors from 3 to 23 years of age from 40 Countries and 150 Italian cities; more than 50,000 documents including photos, articles, news; more than 50 reporters and 200 newspapers and 400 press agencies for a average of 50 press conferences; share of 18% for TV GFF presences at the GFF and more than 10.000 fans on social network.

of space and time: on the one hand the Giffoni Experience crosses national borders<sup>28</sup>; on the other, the ten days of the Giffoni event are extended by means of several activities during the year<sup>29</sup>. Youngsters are the main actors of the GFF; with *My Giffoni*<sup>30</sup> they become prosumers of the event, attending it as jurors: youth cinema that becomes “*cinema for youngsters*” in reality is not a real genre, but a trans-genre recreated ad hoc by the direction of Giffoni Experience<sup>31</sup>. Each edition is focused on a different topic related to current trends (from Love2010, to Taboo2009 and Energy2006) arriving at LINK, the main topic of the 41<sup>st</sup> GFF Experience, revealing great ability in understanding the context, with these four letters underlines the true meaning of this epoch that is the core concept of linking. Several events are arranged each year with international guests, to engage participants, their families and to create a unique moment of comparison, “*events in the Event*” show the great capacity of the GFF in creating network and production synergies in different realities persisting in the same territory. Collaborations that multiply year by year, such as sponsorships, viable for development and support of the Festival, create extra learning opportunities for young participants, such as the creative workshops in which they can experience at first hand working in groups and building team spirit. The GFF is always active and involved in non profit activities, addressing growing attention to new values such as social sensibility and eco-sustainability<sup>32</sup>. Sustainability at 360° is found in the entrepreneurial idea that looks to the future, a critical factor for this Mediterranean GISE driving the local economy. A business model, that of a popular and well reputed festival, that from a cultural activity has become a cultural industry and then a cultural experience, becoming the *edutainment* format par excellence matching *individual, firm, territory through technology innovation*, identifying new ways of creating value, growing edition by edition, confirming the need to start again from human resource capital to revitalize a knowledge economy based on creative-experiential crowdsourcing processes. François Truffaut, after his participation at the Festival in 1982, greatly appreciated the existential value of cultural products such as the GFF: “*Of all the Film Festivals, Giffoni is the one we need the most*”.

A GISE can be defined consequently, as a successful competitive model that finds in the ontological structure of the Innovation diamond its main competitive advantage, or rather its human resources, from a physical- physiognomic perspective, as a living organism would be made of mind and heart to dream (*entrepreneur-resources*), soul and body to think (*co-workers-resources*), arms and legs to act (*management-resources*), ear and hand to share (*network-resources*), mouth and eyes to communicate (*territorial context*).

## 7. Conclusion and further developments

In a crisis such as that which has taken hold in recent years, more careful consideration is

---

<sup>28</sup> If the 90s have strengthened the Festival in the territory according to “*take the World to Giffoni*”, the new millenium challenge is to “*bring Giffoni to the World*” with Giffoni World Alliance (2001): Berlino (2000), Miami (2003), Poland and Albania (2005), Australia (2007), Giffoni Hollywood (2008).

<sup>29</sup> The main categories of event are: for schools, Movie Days, and in the schools, Movie Days on Tour, a flexible and modular format for different needs and location. Moreover, Movie Days Hospital for the strong demand for social inclusion as Millenium Goals.

<sup>30</sup> MyGiffoni is a media competition created by scholars.

<sup>31</sup> The direction of the GFF choose films through careful research based on two criteria: homogeneity (films are suitable for each age group) and on contemporary criteria for which the identikit of an actor is similar to that of the youngsters of each section. Sections of GFF are based on age: element +3 ( that attend the event sharing their experience with parents), elements+6; elements+10 (section for teenagers that supports politically correct thinking, group relationship and communication); generator +13, generator +16 e generator +18 – section where the aim is to create a more aware approach to cinema).

<sup>32</sup> The collaboration scenario includes not only private entities and association: in 2004 the Aura team was established. Besides social responsibility, the GFF works with Telefono Azzurro, Save the Children, Amnesty International. Attention to eco-sustainability is high with the aim of creating a zero impact event.

needed relative to the creation of a new business model with a long-term strategic vision to enable firms to create value for all stakeholders, thus becoming an important social actor together with the individuals and community involved in a well-structured network. (Caramazza, 2011). The *Ex-Pro Value* model is not only a conceptual framework, but a tool to assess value created by Ex-pro: through the pilot case analyzed in the current work, field research has been defined with the aim of assessing redemption effects in learning processes based on experiential performance and outcomes as feedback for managers in order to re-plan and re-organize the experiential format. This should compensate for the lack of theoretical models and empirical research clearly defining links between resources, competences competitive advantages (Tardivo, 2008). To date, literature studies have defined models of measurement for individual-collective experience. However, the present research by means of the Ex pro value model aims to devise a model that integrates assessment of cultural experience, both in an individual and collective learning perspective, seen as “learning to improve” (efficiency) and “learning to innovate” (efficacy) (Marino, 2008), reinforcing paradigms focusing on the individual as a source of the virtuous cycle knowledge, knowhow, self-capabilities for Italian empowerment, competitiveness and consonance. A change in paradigm is necessary to sustain desirable contamination between experience and organizational culture to create innovation through merging individual knowledge and human potential. Enhancing people and their capabilities, promoting participation together with knowledge empowerment and integration are viable objects to redesign a universe of value crucial to economic success (Caselli, 2011). “*It would be catastrophic becoming a country of technical highly skilled people that have lost the ability of critical thinking, of analyzing themselves and of respecting the human dimension*”(Nussbaum, 2011).

## **Bibliography**

- Addis M. e Holbrook M. B., On the Conceptual Link Between Mass Customisation and Experiential Consumption: An Explosion of Subjectivity, *Journal of Consumer Behaviour*, Vol. 1, n. 1, pp. 50-66, 2001
- Addis M., New technologies and cultural consumption – edutainment is born!, *European Journal of Marketing*, Vol. 39 Iss: 7/8, pp.729 – 736, 2005
- Alsever J., What is Crowdsourcing?, <http://www.bnet.com/article/what-is-crowdsourcing/52961>, 2007
- Arnould E., Price L., Zinkhan G., *Consumers*, 2nd ed., McGraw-Hill/Irwin, New York, 2004
- Arvidsson A., *Brands: Meaning and Value in Media Culture*, Routledge, 2006
- Badot O., Cova B., *Des marketing en mouvement, vers un néo-marketing*, *Revue Française de Gestion*, n°136, 5-27, 1992
- Baccarani C., Giaretta E., *Evoluzione degli orientamenti d'impresa e scelte etiche di marketing*, Convegno “Le tendenze del marketing in Europa”, Università di Venezia, 2000
- Berry L.L., Carbone L.P., Haeckel S.H., “Managing the total customer experience”, *Sloan Management Review*, vol. 43, n. 3, Spring, 2002.
- Bianchi M., Introduzione a *The Joyless Economy*, di T. Scitovsky, 1992 (rev.), Oxford Press.
- Borghini S., Carù A., (2008), “Co-creating Consumption Experiences: An Endless Innovation”, in

- A. Carù e K. Tollin (eds.), *Strategic Market Creation*, Wiley & Sons, 257-284
- Bourgeon D., Filser M., *Les apports du modèle expérientiel à l'analyse du comportement dans le domaine culturel*, *Actes de l'Association Française du Marketing*, 9, 309-328, 1993
- Caramazza M., *Urge un cambio di paradigma*, *Harvard Business Review Italia*, p.94-96, Strategiqs edizioni, Giugno 2011
- Carù A. e Cova B., *Esperienza di Consumo e Marketing Esperienziale: Radici Diverse e Convergenze Possibili*, *Micro & Macro Marketing*, 12 (2), pp. 187-211., 2003
- Carù A., Cova B., *Marketing e competenze dei consumatori. L'approccio al mercato del dopo crisi*, EGEA, 2011
- Caselli R., *Il bene oltre il benessere*, *ImpresaProgetto - Electronic Journal of Management*, n.1, 2011
- Codeluppi V., *Manuale di sociologia dei consumi*, Carocci, 2005
- Colbert, B., Wheeler, D., & Freeman, R.E."Focusing on Value: Reconciling Corporate Social Responsibility, Stakeholder Theory and Sustainability in a Network World", *Journal of General Management*, 28 (3), 1-28., 2003
- Falk, J., Dierking, L., *Lessons Without Limit: How Free-Choice Learning is Transforming Education*, Walnut Creek: AltaMira Press, 2002
- Ferrero G., *Marketing progetto 2000. La gestione della complessità*, Franco Angeli, 1990
- Friedman F., *Capitalism and Freedom*, University of Chicago Press, 1962
- Gentile C., Spiller N., Noci G., *How to Sustain the Customer Experience*, *European Management Journal* Vol. 25, No. 5, 2007
- Getz D., *Event studies. Theory, research and policy for planned events*, Elsevier, 2007
- Golinelli G., *L'approccio Sistemico Vitale (ASV) al governo dell'impresa. Verso la scientificazione dell'azione di governo*, Vol. 2, Cedam, 2011
- Gronroos C., *Service Management and Marketing: Customer Relationship Management Approach*, Lexington Books, Lexington, 2000
- Gummesson, *Truths and myths in service quality*", *Journal for Quality and Participation*, Vol. 14 No.4, pp.28-36, 1995
- Hamel G., *Intento strategico – I classici Harvard Business Review*, Edizioni Strategiqs, Il Sole 24 ore, 2008.
- Hirschman, E.C., M.B. Holbrook *Hedonic Consumption: Emerging Concept, Methods and Propositions*, *Journal of Marketing*, Vol. 46, Summer, 92-101, 1982
- Holbrook, M.B. *Introduction to consumer value*, in: Holbrook, *Consumer Value. A framework for analysis and research*, London:Routledge, MB (ed.),1999
- Hosany S., Witham M., *Dimensions of Cruisers' Experiences, Satisfaction and Intention to Recommend*, School of Management, Royal Holloway University of London , 2009



K. H. Veltman K.H., *Edutainment, technotainment e cultura* – conference Cultura in Gioco. Le nuove frontiere di musei, didattica e industria culturale nell'era dell'interattività, Firenze 2004

Kolb A., Kolb D., *Experiential Learning Theory: A Dynamic, Holistic Approach to Management*, p. 42-68. The SAGES Handbook of Management Learning, Education and Development. Edited by S. J. Armstrong, and C. V. Fukami. Pdf, 59 Pages, 2008

Kolb D.A., *Experiential Learning: experience as the source of learning and development*, New Jersey: Prentice-Hall, 1984

Kolb. D. A., Fry, R., *Toward an applied theory of experiential learning*, in C. Cooper (ed.) *Theories of Group Process*, London: John Wiley, 1975

Kotler "The prosumer movement: a new challenge for marketers", in *Advances in Consumer Research* Volume 13, ed. Richard J. Lutz, Provo, UT: Association for Consumer Research, 1986

Kotler P., Scott W G. , *Marketing Management*, Prentice Hall International, 2004

LaSalle D., Britton T. A., *Priceless: Turning Ordinary Products into Extraordinary Experiences*, Harvard Business School Press, Boston, 2003

Learning, Education and Development, Weatherhead School of Management Case Western Reserve University, 2007

Lyotard J.F., *The Postmodern Condition*, Manchester University Press, 1979

Maldonado T., *Consumer, prosumer, adprosumer*, <http://tirsomaldonado.com/>, 2004

Marino V., Mastroberardino P., L'apprendimento organizzativo e il metodo dei casi, *Sinergie* n.76/08, pp. 11-51, 2008

Milligan A., Smith S., *Uncommon Practice: People Who Deliver a Great Brand Experience*, Ft Prentice Hall, Harlow, 2002

Nonaka I., "The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation", *Harvard Business Review*, 1991

Nussbaum M., in Caramazza M., *Urge un cambio di paradigma*, Harvard Business Review Italia, p.96, Strategiqs edizioni, Giugno 2011

Paiola M., Grandinetti R., *Città in festival. Nuove esperienze di marketing territoriale*, Franco Angeli, Milano, 2009

Pine B.J., Gilmore J.H., *The Experience economy*, Harvard Business School Press, Boston, Massachusetts 1999

Pininfarina A., "La conoscenza come fattore competitivo nell'impresa industriale", *Sinergie*, 76/2008

Prahalad C. K. e Ramaswamy V., "Co-Creation Experiences: The Next Practice in Value Creation", *Journal of Interactive Marketing*, Vol. 18, n. 3, pp. 5-14, 2004

Rifkin J., *La civiltà dell'empatia. La corsa verso la coscienza globale nel mondo in crisi*, Mondadori, 2010

Rifkin J., *The Age of Access*, Penguin Group USA , 2001

- Rullani E., *La fabbrica dell'immateriale. Produrre valore con la conoscenza*, Carocci, Roma, 2004
- Saccà F., Saccà G., *Lavoratori domani tra u-topos ed eu-topos*, in V. Marino, *I processi di orientamento in uscita*, Editoriale Scientifica, Napoli, 2011
- Saccà G., *Dupi Italia srl: Una piccola impresa geneticamente innovativa*, in V. Marino, *Casi di Marketing Internazionale*, Giappichelli, 2010
- Schmitt B.H., *Experiential Marketing*, Free Press, NewYork, 1999.
- Schmitt B.H., [Wheeler](#) J., *Managing the Customer Experience: Turning Customers into Advocates*, Ft Prentice Hall, Harlow, 2002
- Schmitt B.H., *Customer Experience Management: A Revolutionary Approach to Connecting with Your Customer*, Wiley & Sons, New Jersey, 2003
- Shaw, C., Ivens, J. (2005), *Building Great Customer Experiences*, MacMillan, New York, 2005
- Smith Mark K. "David A. Kolb on experiential learning", <http://www.infed.org/hp-smith.htm>, 1996-2001
- Tardivo G., "L'evoluzione degli studi sul Knowledge Management", in *Sinergie*, n. 76, 2008
- Vargo S.L., R.F. Lusch , "Evolving to a New Dominant Logic for Marketing", *Journal of Marketing*, 68(1), January 2004
- Vargo S. L., "Customer Integration and Value Creation: Paradigmatic Traps and Perspectives", *Journal of Service Research*, 11 (Nov) 211-215, 2008
- Vicari S., *L'impresa vivente*, Etas, Milano, 1991
- Zanoli F., *Videogiochi e italiano L2/LS Italiano LinguaDue*, n. 1. 2010.
- Zorino M., *Il ConsumAttore*, Padova, Cleup (Italy), 2006.

# METHOD FOR SCREENING SUSTAINABILITY REPORTS IN THE FINANCIAL SERVICES INDUSTRY\*

**Gil Gomes Dos Santos**, Institut de l'entreprise, University of Neuchâtel,  
gil.gomes@unine.ch

**Dong Han**, Information management institute, University of Neuchâtel,  
dong.han@unine.ch

**Gerald Reiner**, Institut de l'entreprise, University of Neuchâtel,  
gerald.reiner@unine.ch

**Kilian Stoffel**, Information management institute, University of Neuchâtel,  
kilian.stoffel@unine.ch

Social pressure on firms to manage environmental issues has been growing over the last decades. The increasing number of financial service firms publishing annual sustainability reports witnesses a growing interest of the sector for social and environmental issues. Despite the importance of this industry in the economy, understanding and assessing environmental management in financial service firms from an operations management and quality management perspective remains to be done. Sustainability reports contain a large set of qualitative and quantitative data than can be used to understand how firms are managing environmental issues. Nevertheless, the number of selected criterion necessary to determine an operations strategy profile and the volume of qualitative data required to do so, turns the analysis phase of a qualitative case study very complicated. Therefore, this study proposes a method for screening sustainability reports based on a procedure using ontology which is a pervasively used method for knowledge representation and discovery. This implementation provides the functionalities of operations on original sustainability reports, i.e., extracting information, learning, and proposition

---

\*This work is supported by Swiss National Science Foundation(SNSF) project "Formal Modelling of Qualitative Case Studies: An Application in Environmental Management" (Project No. CR21I2\_132089/1).

development and scoring. This approach contributes to overcome the deficiencies of qualitative case study research (i.e lack of objectivity) which is necessary to determine environmental management embeddedness in financial service firms.

### **Social pressure on firms**

Over the last decades there has been an increasing awareness of the adverse impact of human activity on the natural environment. Climate change, industrial disasters, deforestation and resources depletion, destruction of biodiversity are just some examples of environmental damages that have been progressively attributed to men's activity and that have been motivating countless initiatives for increasing environmental protection in Society. Over the years, the scope of Society's responsiveness to environmental challenges has gone beyond the reduction of ecological footprint by changing the business environment of firms. According to Schmidheiny [1992], as environmental challenge was evolving from local pollution to global menaces and options, business challenge was passing from technical solutions and additional costs to corporate wide collection of threats, choices, and opportunities that are critical factors for determining future competitiveness of firms.

By performing functions such as facilitating the trading, hedging, diversifying, and pooling of risk; allocating resources, monitoring managers and exert corporate control, mobilizing savings and facilitating the exchange of goods and services [Levine, 1997], financial service providers are widely exposed to the effects of environmental issues in the economy [Jeucken, 2001]. Whether in a direct or in an indirect way [Jeucken, 2004; Bouma *et al.*, 2001]. Examples of the direct influence of environmental issues in the activity of financial service providers can be found in the evolution of Socially Responsible Investment (SRI) or regulatory frameworks.

SRI is an investment practice considering social, environmental and ethical aspects into decision making. Over the last decades, assets under management in SRI portfolio have been considerably increasing with environmental considerations as main criterion for decision making [Waring and Lewer, 2004]. The European market for SRI clearly manifests this evolution as it doubled over the last years passing from 2.7 trillion euros in 2007 to 5 trillion euros at the end of 2009 and representing nowadays 10% of the asset management industry [Eurosif, 2010]. In accordance with Derwall *et al.* [2011] the number of socially responsible investors and their agreement over a same set of ethical values became large enough to have an impact on the supply and demand for securities. This phe-

nomena has direct consequences for the assets management activity. In order to attract socially responsible investors with performing portfolios, asset managers are required to consider environmental information in their screening procedures [Kempf and Osthoff, 2007].

The legal framework in which the financial service providers operate is also becoming more stringent with regards to environmental matters. Indeed, regulations created by governments to make firms endorse the responsibility for environmental damages resulting from their activity also extend to financial service companies. An example is provided by the CERCLA regulation in the US, also called Superfund under which a bank or lender, can be held liable for the contamination of a property if it appears that an institution has been acting as either an owner or operator of a contaminated property [EPA, 2007]. The come into force of the regulation in the late 1980s led some banks to be held liable for clean-up costs on the basis of their supervision of their clients' operations or their ability to influence their management [Coulson and Dixon, 1995; Boyer and Laffont, 1997; Bouma *et al.*, 2001]. Several Legislations in countries such as France or Germany are also impacting insurance companies by forcing dirty industries to get covered for potential environmental damages [Coulson and Dixon, 1995]. In that context, it becomes critical for financial service providers to adjust their contracts and their monitoring procedures by improving the definition, management and evaluation of environmental risks [Boyer and Laffont, 1997].

Besides directs impact on the activity of financial service providers, the natural environment factor in the economy have indirect repercussions on the activity of financial service providers. The expansion of environmental management certification practices in industries and the financial gains that can be derived from the integration of environmental management practices may indirectly impact the activity of financial service service firms. In deed, the importance of environmental management certifications such as the ISO 14000 series have gone beyond simple environmental considerations [Corbett and Kirsch, 2001]. Economical consideration appear as a driver for the diffusion of environmental certification [Vastag, 2004]. An increasing number of corporations are adopting environmental management systems based on 14001 series and are putting pressure on their suppliers to adopt them as well [Morrow and Rondinelli, 2002]. In that context, getting certified appears as a market requirement determining firms ability to stay in business [Miles *et al.*, 1997]. Furthermore, an increasing number of studies have been pointing out the positive impact of environmental management in the financial performance of firms [Hart and Ahuja, 1996; Klassen and McLaughlin, 1996; Russo and Fouts, 1997]. With respect to this issue, literature suggests that

higher levels environmental management practices have a positive impact on market performance through the mediating effect of customer satisfaction and loyalty Kassinis and Soteriou [2003]. Such effects in the industry impact indirectly financial service firms as it can influence firms profitability and therefore their ability to honour their financial commitments [Bouma *et al.*, 2001; Jeucken, 2004].

Given the importance of financial services activity in modern economies, examples provided bellow do not offer a full picture of all the possible impacts that environmental issues can have on the activity of financial service providers. Other issues that could be discussed are related to energy efficiency in the real state market, the trading opportunities offered by the extension of green certificates markets or the impacts of green consumerism in the markets. Nevertheless, it appears from the above that environmental issues have considerable effects for financial service providers. If response to environmental issues in terms of reducing the environmental impacts or assessing the environmental on their own customers have been rather slow compared to other industries [Bouma *et al.*, 2001], it remains that the sector has been responsive to the issue. Indeed the global report initiative database GRI [2011] indicates that the number of financial service providers publicly reporting on Corporate Social Responsibility (CSR) - concept that refers to the integration of social, environmental, and economic responsibilities (Carter and Rogers, 2008) - have been increasing. Information contained in CSR reports following the Global Reporting Initiative (GRI) guidelines are of particular interest for our study. By providing information about the practices of firms with regards to CSR issues and their relative impact, CSR reports offer the possibility of understanding how financial service firms are handling the environmental challenge. Research investigating environmental management in financial services is still in its infancy and do not offer yet a complete understanding of environmental management from an operations management perceptive. The following section reviews existing literature on environmental management strategy in the financial service sector.

### **Environmental management in financial services**

Despite a growing body of research on environmental management, literature addressing environmental management in services, in particular in financial service, remains scarce. Research on environmental management in financial service sector in peer-reviewed journals has been rather modest. Most publications appear in practitioner publications, books as well as monographs and focus on issues such as: the need for information related to climate change [UNEP-FI,

2011], the development of environmental metrics in the real state and their implications for investors [UNEP-FI, 2009]; the role of the financial markets in developing eco-efficiency and sustainability [Schmidheiny and Zorraquin, 1998]; Stakeholders perspectives on the role of the financial sector on the development of sustainable issues [Bouma *et al.*, 2001]; and the identification of best practices [Jeucken, 2004]. In order to benefit from the stringent review process that papers go through before being published, this section only discusses articles published in peer-reviewed academic journals. The very few articles related to environmental management in financial services address the dimensions of environmental actions [Lundgren and Catusus, 2000], the integration of environmental considerations into the lending process [Thompson and Cowton, 2004; Weber *et al.*, 2008], the development of screening procedures for ethical investment and rating tools [O'Rourke, 2003; Costaras, 1996; Koellner *et al.*, 2005] and the assessment of corporate social responsibility within international Banks [Scholtens, 2009].

Lundgren and Catusus [2000] case study investigated the integration of environmental efficiency and awareness in the activities of Swedish Banks and identified three dimensions in attending environmental issues in the banking sector; the Physical, Financial, and Immaterial flows. Physical flow refers to the direct impact of firm's operations on the environment which is originated by the usage of energy and materials. Actions undertaken by banks within this flow are mainly the selection and evaluation of suppliers of physical resources, increasing the eco-efficiency on the usage of resources, and attending to waste management. Financial flow refers to financial resources emanating from banks that trigger action toward more environmental protection. Actions taken within the financial flow involve the screening and evaluation of the suppliers of financial resources, undertaking measures that do not necessarily generate profits, and integrating environmental considerations in their lending and assets management decisions. Immaterial flow refers to the organisational knowledge that firms must get in order take actions aimed at reducing the effects in the natural environment. It involves processing information related to environmental issues, developing environmental values and communicating them to the stakeholders. Lundgren and Catusus [2000] concluded their study by mentioning that the Financial and Immaterial flows offer more opportunities for reducing impact on the natural environment than the Physical flows.

Thompson and Cowton [2004], studied environmental information used or desired by banks when making lending decisions. Their survey on the UK banking sector, shows that the most frequently used sources of information were annual company reports and accounts, information obtained on company visits and from

personal interviews. Weber *et al.* [2008] investigated the integration of environmental risks in all phases of the credit management process in the banking sector. Their study puts in evidence that engagement in the United Nation Environmental Program Finance Initiative (UNEP-FI) influences the credit management strategy and operations on this field. Furthermore, their study also reveals that environmental risks are generally taken into account but the approaches vary from posing single questions about environmental risks management to the application of sophisticated evaluation tools.

Scholtens [2009] developed a framework for assessing socially responsible performance of Banks. based on their social environmental management practices. The practices considered were related to the reporting practice, the adoption of international codes of ethics, integrated environmental management systems, the existence of environmental management policies and the offer of responsible financial products (e.g environmental advice services). Their assessment of a group of 32 Large international banks revealed significant differences in scores between individual banks and countries.

As we can see from the above literature brings evidences that financial service providers are deploying resources and adapting or developing new business processes in order to integrate environmentally related issues in they their organisation [Thompson and Cowton, 2004; Scholtens, 2009]. It also appears that firms tend to perform differently suggesting that there might be differences in their environmental management strategies Scholtens [2009]. The Ressource Based View (RBV) theory is particularly suitable for that purpose as it considers the role of resources in achieving environmental and financial performance [Russo and Fouts, 1997]. The following section discusses how Resource Based View theory can be useful in exploring environmental strategy patterns within organisations.

### **The Resource Based Theory and the importance of organisational capabilities**

The RBV of the firm appears has an appropriate approach for understanding how firms are reconfiguring their resources and capabilities with market requirements and how this can be a source of competitive advantage. RBV theory holds that the way firms control their strategic resources and capabilities can be a source of heterogeneity leading to competitive advantage when these resources and capabilities are valuable, rare, not-substitutable and imperfectly replicable [Barney, 1991]. By integrating environmental issues in the approach it is possible to understand the relation between firms and the natural environment by exploring the re-



lations between specific combinations of resources and capabilities building firm's environmental strategy and their rent generating potential [Hart, 1995]. Defining the terms Resources and Capabilities as well as describing their function appears to be crucial for getting such an understanding. Amit and Schoemaker [1993] defined firm's resources as *a stock of available factors that are owned or controlled by the firm. Resources are converted into final products or services by using a wide range of other firm assets and bonding mechanisms[...]*. In line with Grant [1991], resources (*inputs in the production process*) can be classified into six categories (*financial, physical, human, technological, reputational and organisational*) that can be bundle. These bundles constitute the source of firm's capabilities [Grant, 1991]. In accordance with Amit and Schoemaker [1993] Capabilities are *firm's capacity to deploy resources, usually in combination, using organisational processes, to effect a desired end. They are information-based, tangible and intangible processes that are firm specific and are developed over time through complex interactions among firms resources*. As the main source of competitive advantage [Grant, 1991], organisational capabilities can contribute to the development of competitive strategies for environmental management [Aragon-Correa *et al.*, 2008]. Consistent with Kolk and Mauser [2002] more than one ideal strategy can lead to an optimal environmental performance. This assumption is closer to reality and motivates the development of typologies within our research study. In particular, typologies identify multiple ideal types (patterns) which represent a unique combination of the organizational attributes that are believed to determine the relevant outcome [Doty and Glick, 1994]. Capturing unique combinations of organisational capabilities, their interactions between them and their impact on environmental and financial performance requires an appropriate set of measures and rigorous case study research. The following section describes the methodological approach used to understand how financial service providers are deploying their environmental management strategy. In particular, it describes the case study methodology and its limitations; the set of indicators that will be used to extract environmental management capabilities from the CSR reports of financial service providers; and how case study analysis can be improved by the use of ontologies.

### **Case study methodology and its limitations**

Given the nature of our investigation as explained above, we will choose the case study research method for the following reasons: first, the approach is particularly suitable for studying phenomena in a real-life context Yin [2009]; second,

existing theory seems to have only limited applicability to the cleaner service environmental context in question [Stuart *et al.*, 2002]; third, the subject matter is highly complex [Stuart *et al.*, 2002]; fourth, we want to gather "better" information about the realities of operations systems [McCutcheon and Meredith, 1993] and finally, our research deals primarily with why, what and how questions [Yin, 2009] In the field of operations management research, there is still a discussion about rigor as well as objectivity of case study research: "Too many times, the case study investigators has been sloppy, has not followed systematic procedures or has allowed equivocal evidence or biased views to influence the direction of the findings and conclusion. Such lack of rigor is less likely to be present when using the other methods - possible because of the existence of numerous methodological texts providing investigators with specific procedures to be followed" [Yin, 2009]. Unfortunately, there are only a few papers/books available to cover the case study methodology in general [e.g., Glaser and Strauss [1967]; Eisenhardt [1989]; Eisenhardt and Graebner [2007]; Miles and Huberman [1984]; Roberts [1997]; Strauss and Corbin [1998]; Yin [2009]] and in particular in operations management research [e.g., [Hilmola *et al.*, 2005; McCutcheon and Meredith, 1993; Seuring, 2005; Stuart *et al.*, 2002; Wacker, 1998]]. On the other hand, it is shown by Eisenhardt and Graebner [2007] that case study research is the "best" bridge from rich qualitative evidence to mainstream deductive research. According to Eisenhardt [1989] and Voss *et al.* [2002], the case study investigators are poor processors of information and tend to leap to conclusions based on limited set of data, ignore basic statistical properties and inadvertently drop conflicting evidence. Consequently, the main deficiencies in the classical case study research approach (and in-use implemented tools) can be resumed as following: limited systematic approach for extracting information from data (e.g., documents, transcribed interviews); no systematic representation of the extracted information; no systematic analysis of the obtained information and limited possibility to reuse the information in traditional tools, such statistics (missing export functionality). To overcome these deficiencies we are proposing an approach allowing a formal modeling of qualitative case studies using ontologies. We are proposing to develop a methodology for creating (learning) dedicated ontologies (see below), used to guarantee a consistent conduction of the case study research.

In general, we propose to conduct a case study research (McCutcheon and Meredith, 1993) with a multi case approach. In accordance with , the objective of this approach is to draw cross patterns on current environmental management strategies practices and performances under consideration of situational factors identified by the GRI. We propose to use a clearly structured research design based

on the available publications on case study research [Eisenhardt [1989]; Hilmola *et al.* [2005]; Stuart *et al.* [2002]; Miles and Huberman [1994]; Seuring [2005]; Yin [2009]] in order to ensure the quality of our research in terms of reliability and validity and in order to generate theory (Wacker 1998, Gibbert *et al.* 2008). First, a clear research framework was developed in order to describe the link between causes and effects [Santos and Reiner, 2010]. Afterwards we propose to compare empirically observed patterns with predicted ones, patterns investigated in previous research as well as in different context [Gibbert *et al.*, 2008]. Theory triangulation will enable us to verify our findings by adopting multiple perspectives [Yin, 2009]. These works will provide later on the input for data display (concepts). Before we are able to handle different data displays (concepts) we have to collect our data (documentation) and conduct the data reduction into categories (codification), i.e., development of "codes".

#### **Data reduction process**

The main input for our research study are CSR reports based on the third generation (3G) GRI guidelines, released by companies with core business in the financial service area and written in English. Information in form of text will be extracted from the reports based on the following coding scheme. The development of codes is based on existing literature and information required within the GRI reporting framework. Environmental management strategy is measured based on six environmental capabilities forming the construct of proactive environmental strategy Walls *et al.* [2011] and one environmental capability related to reactive environmental strategy. Each of the seven capabilities are measured by the means of related topics theoretically grounded see [Walls *et al.*, 2011]. These capabilities and related topics are:

- Historical Orientation represented by the topic "History of implementing environmental program".
- Network Embeddedness that can be divided into two categories: supply chain and Other stakeholders. The Supply Chain Category is represented by information related to Supplier policies, Buyer policies, Life cycle analysis or product stewardship (in our framework this topic refers to the integration of environmental considerations in the development of financial services), Industrial symbioses activities (in our framework this can refer to old I.T materials or furnitures sold to other industries). The Other Stakeholder category is represented by topics related to Governments Relationships, NGO relationships, Business/Industry associations, Community programs, Employee programs, Socially Responsible Shareholders, Voluntary programs.

- Endowments refers to financial means and supporting structures putted in place in order to handle environmental issues. It is constituted by information related to Certifications on Environmental Standards (e.g. ISO standards), Environmental Management Systems and Environmental R&D (i.e. amount of financial means invested in order to integrate environmental issues in products).
- Managerial vision capability is represented by information related with Long Term Commitment to Environment and the scope of the vision across the organisation (global or not).
- Top management team skills refers to the environmental management competencies of managers as well firm-specific capabilities. These capabilities are represented by information related to the Environmental responsibilities of Senior Management and information related to the Reporting Structure Level (i.e. intervention of external audits, involvement of senior managers in the
- Human resources refers to the development of employees skills related to environmental issues. It is represented by information related to Environmental training Programs as well as the usage of reporting systems such as the GRI, CERES, GLOBAL COMPACT.
- Environmental compliance refers to the ability of complying with environmental issues and is represented by information related with Violations of environmental regulations Remediation Costs and/ Fines.

For further details about theoretical groundedness for this capabilities please refer to Walls *et al.* [2011] article. Codes representing the main activities in the financial service industry [Dlugolecki, 2000] are used in order to capture the relations between environmental management strategy and the core-business functions of financial service providers. This approach is motivated by different potential impacts of environmental issues on the business functions [Dlugolecki, 2000], the increasing diversification of financial service firms [Allen and Santomero, 1997] and the more stable nature of the financial functions than the financial institutions [Merton, 1995]. The main segments of financial service industry considered are [Dlugolecki, 2000]:

- Investment

- lenders
- Insurance
- Brokers/Dealers
- Users of capital

Measures of environmental performance of firms are mainly taken from the Environmental Performance Indicators reported on the CSR reports. Based on preliminary analysis of reports only relevant indicators for the industry are taken into consideration:

- Existence of CSR department
- Materials Consumption refers to weight or volume of materials used per type as well as the percentage of recycled input materials. The consumption of paper either recycled or not is the more common for financial service providers.
- Energy consumption refers to the amount of energy used per type of sources as well as the reductions achieved by the implementation of energy efficiency measures.
- The Water consumption includes the total water withdrawal by source, the number of source significantly affected by withdrawal of water and the percentage and total volume of water recycled reused, as well as total water discharge by quality and destination.
- Emissions refers to the amount of Greenhouse Gases Emissions by weight and the reductions achieved, as well as the emissions of ozone-depleting substances by weight.
- Waste refers to the total weight of waste by type and disposal method.
- Environmental Certification: this code takes the number of environmental certification obtained by the company.
- Environmental Awards: refers to the number of awards taking environmental issues in consideration.
- Number of Product/Services integrating environmental considerations.

- Percentage of assets subject to environmental screens, this code is based on the GRI indicator FS11.
- Monetary value of product and services designed to deliver a specific environmental benefits for each business line broken down by purpose. It refers to the GRI indicator FS8.
- Percentage of companies held in the institution's portfolio, with which the reporting organisation has interacted on environmental issues. This code refers to the GRI indicators FS10.
- Number of companies held in the institution's portfolio, with which the reporting organisation has interacted on environmental issues. This codes refers to the GRI indicator FS9.
- Coverage of audits to assess implementation of environmental policies and risk assessment procedures. This codes refers to the GRI indicator FS9.
- Frequency of audits to assess implementation of environmental policies and risk assessment procedures.
- Number of voting polic(ies) applied to environmental issues for shares over which the organisation holds the right to vote shares or advises on voting. This refers to GRI indicator FS11.

Finally financial performance of firms is measured based on Tobin's q indicator (representing the market value over replacement costs of tangible assets) based on the assumption that higher Tobin'q may be associated to better environmental performance [Dowell *et al.*, 2000].

Because the similarity of purposes and implementation factors between quality management and environmental management systems makes possible the use of tools, methods and practices of quality management when implementing environmental management systems [Molina-Azorin *et al.*, 2009], we propose to use the RADAR assessment method of the EFQM excellence model [EFQM, 2000] to evaluate, based on the quality of information, the interactions between the environmental management capabilities. The objective of this approach to capture bundles of interactions that may explain environmental or financial performance. Consistent with what mentioned above, ontologies can support data reduction, data display and data analysis steps of case study research. The following section

describes the implementation of Ontologies and functionalities.

## **Implementation**

Based on the methodology proposed above, we have implemented a prototype system [Han and Stoffel, 2011]. With this prototype, we are able to operate on primary documents, analyze them with semantic mechanisms, and provide feedback to the users.

Ontologies are one of the means of exchanging knowledge in a machine processable and standardized way [Rebstock *et al.*, 2008; W3C]. They are of great importance in modern knowledge based systems. For instance, they constitute a powerful tool for supporting natural language processing [Estival *et al.*, 2004; Bateman, 1997], information filtering [Middleton *et al.*, 2004; Sim, 2004], information retrieval [Vailet *et al.*, 2005], and data access [Calvanese *et al.*, 2007]. One of the most important application of ontologies is the Semantic Web [Shadbolt *et al.*, 2006], a new generation of Web in which the semantics of documents, in most cases currently expressed only in natural language, is expressed using ontologies. In this new context ontologies are also used as a tool for systematic formalization and integration of information used in the business processes [Osterwalder, 2004; Gordijn and Akkermans, 2003; A. and Y., 2004]. In our system, ontologies are utilized to store the knowledge retrieved as the foundation for further analysis.

Based on the concrete demand, we chose to use Java as the programming language. Java is widely-used in a large number of domains such as e-business, e-health, and management. The software written in Java is able to be run on different platforms including MS Windows, Mac OS, and Linux, i.e. *cross-platform*. It is meanwhile well-known for its *object-oriented* feature, making both the design and implementation easy and clear. Besides, there are many libraries written in Java providing fundamental functionalities of our project. Moreover, the capacity of processing XML, which is significant for our ontology operations, is well supported as an API.

Furthermore, different functional modules have been implemented independently based on these utilities. We profit from this solution in that if there are changes later on, we can focus on the modules which need to be modified and well maintain the other parts of the system at the same time.

The interface comprises three parts: document display, code panel, and message console. The first part shows the original document we are analyzing and editing. It is implemented based on ICEPdf [ICEpdf, 2011], a Java project for working with PDF documents. Users can select particular phrases and sentences

codes	<i>quotation</i> <sub>1</sub>	<i>quotation</i> <sub>2</sub>	...	<i>quotation</i> <sub>n</sub>
<i>code</i> <sub>1</sub>	1	0		1
<i>code</i> <sub>2</sub>	0	1		1
...				
<i>code</i> <sub>n</sub>	0	1		0

Table 1: Pivot table

as the quotations and flag them with codes. The second part uses a tree structure to display all the quotations, codes, and ratings that have been added while working on this document. The third part depicts the knowledge details of the quotations and codes.

Our analysis on the data mainly focuses on knowledge inference and data mining. For inference, as we already have the data annotated by the users, we can write numbers of rules to infer new facts in accordance with the existing data. Then we can discover new principles which are intuitive and useful to the domain experts. Regarding data mining, methodologies of clustering, classification, and association rules are explored. Taking the example of classification, we can use a decision tree to evaluate the action effectiveness and quality of a financial firm based on a group of attributes of their performance.

Once we have produced the analytical results, output is provide to the users as feedback. The output modules are designed to be personalized and informative. Taking the advantages of Java's I/O operations, we are able to export the results in a flexible and convenient way. For instance, a pivot table, as shown in table 1, reveals the concurrence of the codes and their quotations from the primary documents.

## Conclusion

In the present study one can see that financial service providers are directly and indirectly exposed the effects that environmental issues have in the society and that the increasing publications of corporate social responsibility reports indicate that financial service providers are addressing environmental issues. Despite the importance of the financial services sector in modern economies, it appears that peer reviewed literature addressing environmental management in the financial sector remains scarce. A small number of attempts were made to understand how financial service providers are aligning their resources with market requirements based on environmental considerations but only in a partial manner. We have seen that



Resource Based View theory provides a good theoretical approach for understanding the interactions between resources, capabilities and performance that can lead to competitive advantage. Nevertheless the case study methodology required to extract and analyse empirical data from cases suffers from many limitations. The presented methodology including ontologies guarantees a consistent conduction of the case study research by supporting data analysis with semantic mechanisms, by providing feedback to the users and offering the possibility to reuse the data. Knowledge on how to evaluate the impact of different environmental management orientations will be of great interest to academic researchers in the field of (service) operations management, but also to practitioners. The direct impact of environmental operations management orientation on firm performance is of interest for society in general as well. Instead of simplified environmental ratings developed by practitioners rather than academics that serve for consultants, business associations and environmental governmental and non-governmental organization, we contribute to an overall understanding of environmental management orientation and their impact on financial service firms performance.

## References

- Osterwalder A. and Pigneur Y. An ontology for e-business models. In Currie Wendy, editor, *Value Creation from E-Business Models*, 2004.
- Franklin Allen and Anthony M. Santomero. The theory of financial intermediation. *Journal of Banking & Finance*, 21(11-12):1461–1485, 1997. doi: 10.1016/S0378-4266(97)00032-0.
- R. Amit and P.J.H. Schoemaker. Strategic assets and organizational rent. *Strategic management journal*, 14:33–33, 1993.
- J.A. Aragon-Correa, N. Hurtado-Torres, S. Sharma, and V.J. Garcia-Morales. Environmental strategy and performance in small firms: A resource-based perspective. *Journal of Environmental Management*, 86(1):88–103, 2008.
- J. Barney. Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1):99 – 120, 1991.
- John A. Bateman. The theoretical status of ontologies in natural language processing. *CoRR*, cmp-lg/9704010, 1997.

- JJ Bouma, M Jeucken, and L Klinkers. *Sustainable banking: the greening of finance*. Greenleaf Publishing, 2001.
- Marcel Boyer and Jean-Jacques Laffont. Environmental risks and bank liability. *European Economic Review*, 41(8):1427–1459, 1997. doi: 10.1016/S0014-2921(96)00034-7.
- D. Calvanese, G. De Giacomo, L. Domenico, M. Lenzerini, A. Poggi, and R. Rosati. Ontology-based database access. In *Proc. of the 15th Italian Conf. on Database Systems (SEBD 2007)*, pages 324 – 331, 2007.
- CJ Corbett and DA Kirsch. International diffusion of iso 14000 certification. *Production and Operations Management*, 10(3):327–342, 2001.
- Nicholas E. Costaras. Environmental risk rating for the financial sector. *Journal of Cleaner Production*, 4(1):17–20, 1996. doi: 10.1016/S0959-6526(96)00007-8.
- AB Coulson and R Dixon. Environmental risk and management strategy: the implications for financial institutions. *International Journal of Bank Marketing*, 13(2):22–29, 1995.
- J. Derwall, K. Koedijk, and J.T. Horst. A tale of values-driven and profit-seeking social investors. *Journal of Banking & Finance*, 2011.
- A. Dlugolecki. Climate change and the financial services industry. *speech delivered at the opening of the UNEP Financial Services Roundtable, Frankfurt, Germany*, 16, 2000.
- DH Doty and WH Glick. Typologies as a unique form of theory building: Toward improved understanding and modeling. *Academy of Management Review*, 19(2):230–251, 1994.
- G Dowell, S Hart, and B Yeung. Do corporate global environmental standards create or destroy market value? *Management Science*, 46(8):1059–1074, 2000.
- EFQM. The efqm excellence model in action: Advice booklet. EFQM Publications, 2000.
- KM Eisenhardt and ME Graebner. Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1):25, 2007.

- KM Eisenhardt. Building theories from case study research. *Academy Of Management Review*, 14(4):532–550, 1989.
- Environmental Protection Agency EPA. Cercla, brownfields, and lender liability, 2007.
- D. Estival, C. Nowak, and A. Zschorn. Towards ontology-based natural language processing. In *NLPXML '04: Proceedings of the Workshop on NLP and XML (NLPXML-2004)*, pages 59 – 66, 2004.
- Eurosif. European sri study revised edition, 2010.
- M Gibbert, W Ruigrok, and B Wicki. What passes as a rigorous case study? *Strategic management journal*, 29(13):1465–1474, 2008.
- BG Glaser and AL Strauss. *The discovery of grounded theory: Strategies for qualitative research*. Aldine, 1967.
- J. Gordijn and J. M. Akkermans. Value-based requirements engineering: exploring innovative ecommerce ideas. *Requirements engineering*, 8:114 – 134, 2003.
- R.M. Grant. The resource-based theory of competitive advantage: Implications for strategy. *California Management Review*, 22:114–135, 1991.
- GRI, June 2011.
- Dong Han and Kilian Stoffel. Ontology based qualitative case studies for sustainability research. In *Proceedings of the AI for an Intelligent Planet in conjunction with IJCAI 2011*, 2011.
- SL Hart and G Ahuja. Does it pay to be green? an empirical examination of the relationship between emission reduction and firm performance. *Business Strategy and the environment*, 5(1):30–37, 1996.
- S.L. Hart. A natural-resource-based view of the firm. *ACADEMY OF MANAGEMENT REVIEW*, 20(4):986–1014, 1995.
- O.P. Hilmola, A. Hejazi, and L. Ojala. Supply chain management research using case studies: a literature analysis. *International Journal of Integrated Supply Management*, 1(3):294–311, 2005.
- ICEpdf. Home Page of ICEpdf, 2011. <http://www.icepdf.org/>.

- M. Jeucken. *Sustainable finance and banking: the financial sector and the future of the planet*. Earthscan/James & James, 2001.
- M Jeucken. *Sustainability in finance: banking on the planet*. Eburon Publishers, Delft, 2004.
- GI Kassinis and AC Soteriou. Greening the service profit chain: The impact of environmental management practices. *Production and Operations Management*, 12(3):386–403, 2003.
- A. Kempf and P. Osthoff. The effect of socially responsible investing on portfolio performance. *European Financial Management*, 13(5):908–922, 2007.
- RD Klassen and CP McLaughlin. The impact of environmental management on firm performance. *Management Science*, 42(8):1199–1214, 1996.
- T. Koellner, O. Weber, M. Fenchel, and R. Scholz. Principles for sustainability rating of investment funds. *Business Strategy and the environment*, 14(1):54–70, 2005.
- A Kolk and A Mauser. The evolution of environmental management: from stage models to performance evaluation. *Business Strategy and the environment*, 11(1):14–31, 2002.
- R Levine. Financial development and economic growth: views and agenda. *Journal of economic literature*, 35(2):688–726, 1997.
- M Lundgren and B Catusus. The banks’ impact on the natural environment-on the space between ” what is ” and ” what if ”. *Business Strategy and the environment*, 9(3):186–195, 2000.
- DM McCutcheon and JR Meredith. Conducting case study research in operations management. *Journal of Operations Management*, 11(3):239–256, 1993.
- R.C. Merton. A functional perspective of financial intermediation. *Financial management*, 24(2):23–41, 1995.
- S. Middleton, N. Shadbolt, and D. De Roure. Ontological user profiling in recommender systems. *ACM Transactions on Information Systems*, 22:54 – 88, 2004.

- Matthew B. Miles and A. Michael Huberman. Drawing valid meaning from qualitative data: Toward a shared craft. *Educational Researcher*, 13(5):20–30, 1984. ArticleType: research-article / Full publication date: May, 1984 / Copyright 1984 American Educational Research Association.
- MB Miles and AM Huberman. *Qualitative data analysis: An expanded sourcebook*. Sage Publications, Inc, Thousand Oaks, 1994.
- Morgan P. Miles, Linda S. Munilla, and Gregory R. Russell. Marketing and environmental registration/certification: What industrial marketers should understand about iso 14000. *Industrial Marketing Management*, 26(4):363–370, 1997. doi: 10.1016/S0019-8501(96)00144-7.
- JF Molina-Azorin, JJ Tara, E Claver-Cortes, and MD Lopez-Gamero. Quality management, environmental management and firm performance: A review of empirical studies and issues of integration. *International Journal of Management Reviews*, 11(2):197–222, 2009.
- David Morrow and Dennis Rondinelli. Adopting corporate environmental management systems:: Motivations and results of iso 14001 and emas certification. *European Management Journal*, 20(2):159–171, 2002. doi: 10.1016/S0263-2373(02)00026-9.
- Anastasia O’Rourke. The message and methods of ethical investment. *Journal of Cleaner Production*, 11(6):683–693, 2003. doi: 10.1016/S0959-6526(02)00105-1.
- A. Osterwalder. *The Business Model Ontology - a proposition in a design science approach*. PhD thesis, Hautes Etudes Commerciales HEC, Lausanne, 2004.
- Michael Rebstock, Janina Fengel, and Heiko Paulheim. *Ontologies-Based Business Integration*. Springer, 2008.
- CW Roberts. *Text analysis for the social sciences: Methods for drawing statistical inferences from texts and transcripts*. Lawrence Erlbaum Associates, Mahwah, 1997.
- MV Russo and PA Fouts. A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40(3):534–559, 1997.

- G Santos and G Reiner. Impact of environmental management orientation on service quality in financial service sector. 13th Toulon-Verona Conference Excellence in services, September 2010.
- S Schmidheiny and FJ Zorraquin. *Financing change: the financial community, eco-efficiency, and sustainable development*. The MIT Press, 1998.
- S. Schmidheiny. *Changing course: A global business perspective on development and the environment*. the MIT Press, 1992.
- B. Scholtens. Corporate social responsibility in the international banking industry. *Journal of Business Ethics*, 86(2):159–175, 2009.
- S. Seuring. Case study research in supply chains - An outline and three examples. In H. Kotzab, S. Seuring, M. Miller, and G. Reiner, editors, *Research methodologies in supply chain management*, pages 235–250. Physica-Verlag, 2005.
- N. Shadbolt, W. Hall, and T. Berners-Lee. The semantic web revisited. *Intelligent Syst*, 21:96 – 101, 2006.
- Kwang Mong Sim. Toward an ontology-enhanced information filtering agent. *SIGMOD Rec.*, 33(1):95 – 100, 2004.
- AL Strauss and JM Corbin. *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage Publications, Inc, Thousand Oaks, 1998.
- I Stuart, D McCutcheon, R Handfield, R McLachlin, and D Samson. Effective case research in operations management: a process perspective. *Journal of Operations Management*, 20(5):419–433, 2002.
- Paul Thompson and Christopher J. Cowton. Bringing the environment into bank lending: implications for environmental reporting. *The British Accounting Review*, 36(2):197–218, 2004. doi: DOI: 10.1016/j.bar.2003.11.005.
- UNEP-FI. Fiduciary responsibility: Legal and practical aspects of integrating environmental, social and governance issues into institutional investment. UNEP, 2009.
- UNEP-FI. Results of a global survey on the information requirements of the financial sector. UNEP, 2011.

- D. Vailet, M. Fernandez, and P. Castells. An ontology-based information retrieval model. *The Semantic Web: Research and Applications*, pages 455 – 470, 2005.
- G. Vastag. Revisiting iso 14000 diffusion: A new look at the drivers of certification. *Production and Operations Management*, 13(3):260–267, 2004.
- C. Voss, N. Tsikriktsis, and M. Frohlich. Case research in operations management. *International Journal of Operations & Production Management*, 22(2):195–219, 2002.
- W3C. Owl 2 Web Ontology Language. <http://www.w3.org/TR/owl2-overview/>.
- JG Wacker. A definition of theory: research guidelines for different theory-building research methods in operations management. *Journal of Operations Management*, 16(4):361–385, 1998.
- J.L. Walls, P.H. Phan, and P. Berrone. Measuring environmental strategy: Construct development, reliability, and validity. *Business & Society*, 50(1):71, 2011.
- P. Waring and J. Lewer. The impact of socially responsible investment on human resource management: A conceptual framework. *Journal of Business Ethics*, 52(1):99–108, 2004.
- O. Weber, M. Fenchel, and R.W. Scholz. Empirical analysis of the integration of environmental risks into the credit risk management process of european banks. *Business Strategy and the environment*, 17(3):149–159, 2008.
- R.K. Yin. *Case study research: Design and methods*. Sage Publications, Inc, Thousand Oaks, 2009.

# **BUILDING CHINA'S RURAL HEALTHCARE PERFORMANCE EVALUATION SYSTEM: A TUSCAN PERSPECTIVE**

**Hao Li**, Laboratorio Management e Sanità, Istituto di Management, Scuola Superiore Sant'Anna, Pisa, Italy 56127, h.li@sssup.it

**Abstract:** China has around 740 million inhabitants living in rural area. Primary care and public health services in the rural area have been provided by township hospitals and village clinics. However, bed utilization rate and hospitalization days in the township hospitals are very low. China is yet to build a regional rural performance evaluation system at county basis to monitor the operations of the township hospitals and to identify where to put the health resources to the most needed area. The Tuscan regional healthcare evaluation system in Italy is a good example in meeting these requirements. It is originated from Balanced Scorecard (BSC) method and developed into a multi-dimensional reporting system. As the concepts of BSC and multi-dimensional reporting have been widely applied worldwide, the Tuscan framework to build its PES can be referable to China's purposes. We propose that the Chinese county government can commission a third party agency to build a rural healthcare PES and to evaluate the performance of its township hospitals.

**Keywords:** healthcare performance; performance evaluation system; benchmarking; rural China

## **1 Introduction**

China has long carried out imbalanced economic development policies, which enlarged the gap between urban and rural areas. This re-allocation model has also impacted the provision of healthcare services. Consequently, big gap has long existed between urban and rural areas. By the end of 2009, the rural area takes account of 32.8% of the total health expenditure. By the end of 2010, health workers in urban area just account for 18.58% of all health workers in China, while urban residents make up 50.32% of all the inhabitants in China (MOH of China, 2011; NBOS of China, 2011). The imbalanced configuration of healthcare resources between urban and rural areas is one of the main reasons that caused the difficulty of seeing a doctor and high costs of seeing a doctor for rural residents. In rural area, healthcare services are provided by township hospitals and village clinics. However, this mechanism design has lost its original functions because of (1) insufficient government inputs; (2) unqualified organization setting, incl. low quality health workers, unreasonable personnel structure, low capability of providing services, etc; (3) high medical costs; (4) incomplete rural healthcare system. Moreover, with scarce resources, the efficiency of healthcare services provided by the township hospitals are very low. By the end of 2010, bed utility rate is 59% and the hospitalization days are 5.2 days (MOH of China, 2011). In order to deal with these problems, the Chinese governments of all levels are constructing standard township hospitals in the one side,



and are promoting the rural cooperative healthcare insurance on the other. In some cities, the government directly released pilot experiments to eliminate the different health insurances between urban and rural residents and merge them into one, which provide positive explorations towards a comprehensive healthcare system. Further, the governments are implementing pay-for-performance in primary care organizations. Performance becomes an important factor to decide the budget by the county Bureau of Health. All these reforms and policies have provided the counties some opportunities to conduct performance evaluation on county basis. In China, most of the Chinese township hospitals are managed by their county Bureau of Health, which make it possible to do benchmarking among them. However, China is yet to learn from international experiences. In China, although the Balanced Scorecard (BSC) has been introduced into the public sector (Wu et al, 2007; Zhao & Ye, 2010), in health care there is very limited research on how to use it to conduct performance evaluation, how to use benchmarking to improve healthcare organizations' performance and how to make health budgets based on performance, etc (Tang et al, 2008; Chen et al, 2010). Further, there are many studies on healthcare management of a whole country (Xie, 2006; Wan et al., 2008) or cross-country comparison (Gu, 2005), while healthcare systems of a country may greatly differ from each other, thus calling for regional studies.

The healthcare performance in Tuscany is one of the best ones in the Italian regions. The Tuscan healthcare services are mainly provided by 12 public local health authorities (HA) and 5 teaching hospitals (TH). A HA is responsible to provide local residents with preventative services, primary care services and hospital services. The THs are jointly managed by their respective universities and the regional government to provide hospital and complicated diagnostic services. The regional government commissioned a third party agency to conduct performance evaluation with benchmarking, which services as an important reference for the regional government to make health budgets. Evidence from Tuscany indicates that, in 2007 if all the HAs and THs have achieved the average performance or best practice performance, 2-7% of the budgets could be reallocated (Nutti, 2010). The PES has become an important governance tool to manage the HAs and THs. The annual performance report produced from the PES is one of the important supports to formulate budget planning. The PES implemented in Tuscany is originated from BSC and has developed into a multi-dimensional reporting system. BSC and multi-reporting have been widely applied worldwide (Kaplan & Norton, 1996; Rosenheck & Cicchetti, 1998; Chan & Seaman, 2008). The Tuscan PES has played a significant role in improving the performance at single institution level, regional level and inter-regional level. By the end of 2010, there are 9 regions in Italy that have joined the network of the Tuscan PES. Therefore, the Tuscan experience can be of a typical example in Italy.

Further, the Tuscan PES are proving some indicator data for the accreditation of

the HAs and THs. The Tuscan PES can serve as a supplement to overcome the defects of the accreditation, making performance improvement efforts continuous. In contrast, accreditation has been widely used in China by the government (Wang, 2008). In many Chinese cities, the BoH annually employs external experts to conduct field inspections on the hospitals. However, these hospitals normally prepare for these inspections in advance after receiving the notice for inspection. When finished, most of them step back to their previous conditions. In this sense, the Tuscan framework helps to consolidate the performance improvement achievements. Further, the Chinese BoH indicators for accreditation emphasize reaching to a certain level of standards instead of achieving specific goals, giving little attention to cost sustainability. In contrast, evidence from Tuscany indicates that higher performance leads to lower costs (Nutti, 2011). As the representatives of government owners, the county BOH also faces cost constraints and it is their responsibility to apply another full set of indicators that are capable of internally tracking the performance of the township hospitals, at the same time providing some data support for external accreditation.

Therefore, the Tuscan experience on the development and implementation of its regional healthcare PES is of special significance to China. In this paper, we first introduce in detail the Tuscan regional healthcare PES and then try to explore how to build a regional healthcare PES to measure the performance of the township hospitals of a county for China's purpose.

## **2 The Tuscan regional healthcare performance evaluation system**

### **2.1 Information platform and legislation**

In 2001, the Italian Ministry of Health started to encourage the regional governments to develop their own health information system (HIS) to monitor the effectiveness and equity of healthcare services delivered by public healthcare institutions. The Tuscan HIS can collect the data and information reported by each HA/TH. However, most of the data and information gathered by the system were not processed properly and taken good advantage of. Data were not presented in a simple way and information was not adequate for decision-making, which were not good for the management of the HAs and THs. The regional government decided to design and implement a performance evaluation system that could emphasize the outcome produced by the HAs and THs. In order to assure the usefulness, appropriateness and transparency of the system, the regional government decided to select a public university to develop and manage it. Among all the universities in Tuscany, the University of Scuola Superiore Sant'Anna won the bid for its multidiscipline research background, professional health management knowledge and no business relations with the HAs and THs. The regional government released DRGT n.7425 in 2001, selecting 4 HAs to conduct pilot experiments with the university. According to decree DRGT 3065, in 2004, the Management and Health Laboratory (MeS Laboratory) was established by Scuola Superiore Sant'Anna, in collaboration

with the regional government, with the responsibility of developing and implementing a regional healthcare performance evaluation information system, to monitor the operations of the HAs and THs and to make sure that the planned regional goals could be achieved. Further, in 2004, a regional decree (DRGT 713) was released which stipulates that all top managers of the HAs and THs should regularly join the management training by the university to make them their knowledge structure and management skills adapted to the implementation of the PES. The same year, the university further established the Management and Health Laboratory (MeS Laboratory) to take charge of the evaluation tasks. In 2005, a regional law (L.40) was set to define the performance evaluation in health care as the combination of instruments and actors that determines whether the regional goals and plans are achieved in terms of levels of population health, effectiveness and quality of care, appropriateness and efficiency of services. In its subsequent articles, the subjects, targets and level of evaluation process were further defined. Besides, a payment rewarding system (PRS) was also developed by MeS laboratory to connect to the PES to decide the variable part of a CEO's wage. The HIS, relevant legislation and the PES provide performance evaluation with a good environment in which to operate. In 2006, the PES had been fully implemented to all the HAs and THs.

## **2.2 PES dimensions and data presentation**

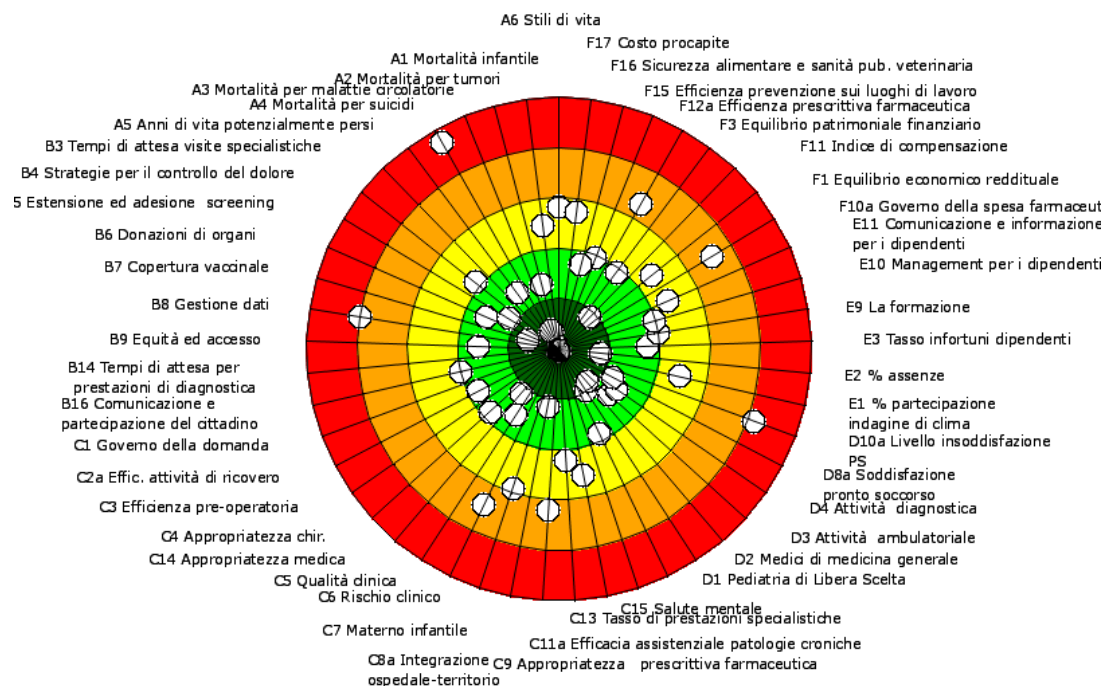
MeS Laboratory has innovated the BSC concept, identifying 6 dimensions, 50 index indicators and 130 sub-indicators to reflect the overall performance of a HA/TH. The performance indicator scores of each HA/TH are delivered as outcomes, forming a PES based on multi-dimensional reporting with benchmarking. The 6 dimensions are regarded as being able to highlight the basic elements of a HA/TH's performance. They are (Nutti et al., 2010):

- ① Population health status (A), indicators such as infant mortality, population mortality, etc are selected to measure the performance
- ② Regional policy targets (B), so that regional strategic objectives can be achieved in the way stated
- ③ Clinical quality of care (C), including quality, appropriateness, efficiency, clinical risk management, managing supply to match demand, etc.
- ④ Patient satisfaction (D), concerning patient satisfaction with health services.
- ⑤ Staff assessment (E), mainly about staff satisfaction
- ⑥ Efficiency and financial performance (F), verifying the capacity of each HA/TH in three balance conditions (income balance, cash balance and financial balance)

In order to represent these 6 dimensional results of each HA/TH, a target diagram is applied, with 5 bands of different colors to report. The classification of each indicator in one of these 5 bands is in accordance with international standards and regional standards. Different algorithms are applied to transform the evaluated performance values into performance scores ranging from 1 to 5 that will be presented into the

target diagram. The dark green (1th band) is nearest to the center, with performance scores between 4 and 5, representing excellent performance; the light green (2th band) represent good performance, with performance scores between 3 and 4; the yellow (3th band) represents medium performance, with performance scores between 2 and 3; the orange (4th band) represents poor performance, with performance scores between 1 and 2. Performance in this band area must to be improved; the red (5th band) represents very poor performance, with performance scores less than 1. Performance fallen into this area needs to be continuously improved. The more the healthcare institution's performance score is to the center (the dark green), the higher its performance, just like a player shooting at the bull's eye (Nutti et al, 2010). The PES can automatically capture the majority of data from the Tuscan HIS. For the other data that are difficult to obtain, such as the data on patient satisfaction and staff satisfaction, they are acquired by releasing surveys and conducting interviews. At the regional level, MeS laboratory is responsible for integrating the indicator performance of all the HAs and THs into a comprehensive healthcare performance evaluation system of whole Tuscany.

Fig1: A target diagram of one HA in Tuscany



### 2.3 Indicator selection and measurements

During the pilot phase of PES, regional and HA top managers proposed a list of indicators, some of them already used in other countries. Clinical indicators were submitted and approved by the Region. All indicators were also reviewed a variety of consensus exercises including an annual conference involving HA and regional managers, professionals and consumers. The same process guides the inclusion of new indicators each year. Each of the evaluated indicators has a score: classes are identified on the basis of the standard, the mean or the median and the regional standard deviation for each indicator. The majority of indicators are subject to an

evaluation on the basis of the international, national or regional standards available. When there is no standard the evaluation is given on the basis of the regional mean or median (Nuti et al, 2010).

Table 1: The 2009 Tuscan regional healthcare performance indicators (Nuti et al, 2010)

<p style="text-align: center;">Population health status ( A )</p> <p>A1 Infant Mortality rate            A2 Mortality rate for cancer            A3 Mortality rate for circulatory disease            A4 Mortality rate for suicide            A5 Potential years of life lost            A6 Health lifestyles</p>	<p style="text-align: center;">Patient satisfaction ( D )</p> <p>D1 Patient satisfaction with pediatricians            D2 Patient satisfaction with GPs            D3 Patient satisfaction with outpatient visits            D4 Patient satisfaction with diagnostic services            D8 Patient satisfaction with ED            D9 ED withdrawal rate            D10 Level of dissatisfaction with ED</p>
<p style="text-align: center;">Regional policy targets ( B )</p> <p>B3 Waiting lists for outpatient visits            B4 Drugs consumption for pain control            B5 Oncological screening            B6 Organ donation            B7 Vaccines distribution            B8 Data transmission time to the regional IS            B9 Equity and access            B11 Case-mix (only for THs)            B12 Attractiveness capacity (only for THs)            B14 Waiting lists for diagnostic services            B15 Research activity (only for THs)            B16 Citizen communication and participation</p>	<p style="text-align: center;">Staff assessment ( E )</p> <p>E1 Internal climate survey response rate            E2 Absence rate            E3 Employee accident rate            E9 Training activities            E10 Employees' satisfaction with the management            E11 Employees' satisfaction with communication and information</p>
<p style="text-align: center;">Clinical quality of care ( C )</p> <p>C1 Hospitalization rate            C2 Efficiency assessment for inpatients activities            C3 Efficiency assessment for pre-surgical activities            C4 Surgical appropriateness assessment            C5 Clinical in-hospital quality assessment            C6 Risk management and patient safety            C7 Maternity pathway assessment            C8 Primary care quality assessment            C9 Pharmaceutical prescription appropriateness            C10 Oncological pathway assessment            C11 Chronic diseases quality assessment            C13 Outpatient visits and diagnostic services rate            C14 Medical appropriateness assessment            C15 Mental health</p>	<p style="text-align: center;">Efficiency and financial performance ( F )</p> <p>F1 Financial Viability            F3 Assets and Liabilities management            F7 Efficiency of internal services            F8 Efficiency of budget process            F10 Pharmaceutical expenditure            F11 Clearing mobility rate            F12 Pharmaceutical prescription efficiency            F15 Efficiency of prevention services and workplace safety            F16 Efficiency and efficacy in food safety and nutrition            F17 Per capita healthcare expenditure</p>

In order to better understand the indicators and measuring principles, we give the vaccination rate indicator (B7) as an example<sup>1</sup>. This index indicator is made up of sub-indicators B7.1 and B7.2. B7.1 is used to measure the MPR (measles, parotitis and rubella) vaccination rate for children, while B7.2 is used to measure the anti-influenza vaccination rate for those older than 65 years old. To better understand the sub-indicator, table 2 is a demonstration of the performance value of sub-indicator B7.2.

<sup>1</sup> As this indicator is used to measure the performance of the primary care services, it is not applied into the teaching hospitals. Therefore, in the following benchmarking demonstrations, THs are not included.

Table 2: Anti-influenza vaccination rate for those older than 65 years old (B7.2)

HA	Value 2008	Value 2009	Delta %	Num 2009	Den 2009
Tuscany	69,470	71,11	2,361	613,412	862,680
T-Ausl 1 Massa	68,270	73,38	7,485	36,085	49,177
T-Ausl 2 Lucca	82,000	75,05	-8,476	38,919	51,859
T-Ausl 3 Pistoia	71,930	71,29	-0,890	46,638	65,424
T-Ausl 4 Prato	75,250	77,40	2,857	38,527	49,775
T-Ausl 5 Pisa	64,370	70,39	9,352	53,418	75,884
T-Ausl 6 Livorno	68,850	72,16	4,808	61,195	84,803
T-Ausl 7 Siena	65,820	66,81	1,504	44,186	66,139
T-Ausl 8 Arezzo	73,250	73,39	0,191	57,311	78,096
T-Ausl 9 Grosseto	64,660	66,95	3,542	37,478	55,975
T-Ausl 10 Firenze	67,160	69,77	3,886	136,495	195,625
T-Ausl 11 Empoli	70,910	70,53	-0,536	36,240	51,382
T-Ausl 12 Viareggio	69,420	69,85	0,619	26,920	38,541

## 2.4 Performance benchmarking

Benchmarking has been widely used in the Tuscan healthcare PES, which includes two levels: self-comparison and inter-organizational comparison. Fig 2 is an example of benchmarking for self-comparison in two continuous years. The horizontal axis represents the HAs and the vertical axis represents the performance value. However, self-comparison makes it difficult to find the best practices. The inter-organizational comparison can help the HAs and THs to learn from each other, so that the defects of simple self-comparison can be overcome. As is shown in Fig3, the performance scores resulting from the PES makes it possible to enable more effective and more structural comparison between HAs to find out potential problems that all or some of the HAs and THs may have. The CEOs will be asked to attend the quarterly meeting, where the indicators will be reviewed and improvements will be given attention to. The best practice CEOs will be asked to introduce how they made their achievements. By sharing best practices through benchmarking and meetings, problems relevant to poor performance on a specific aspect may be found out.

Fig 2: vaccination rate benchmarking (self-comparison)

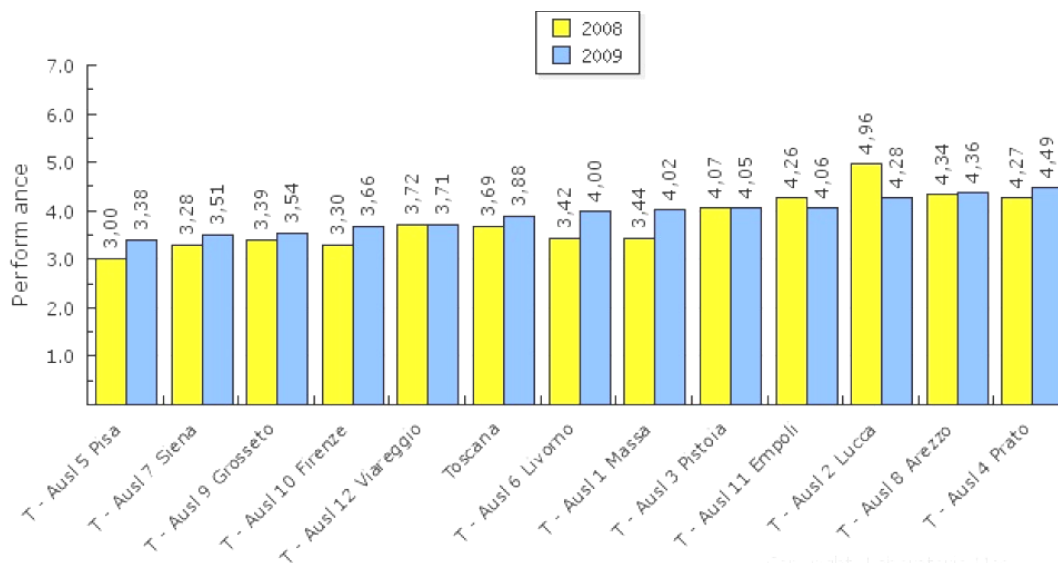
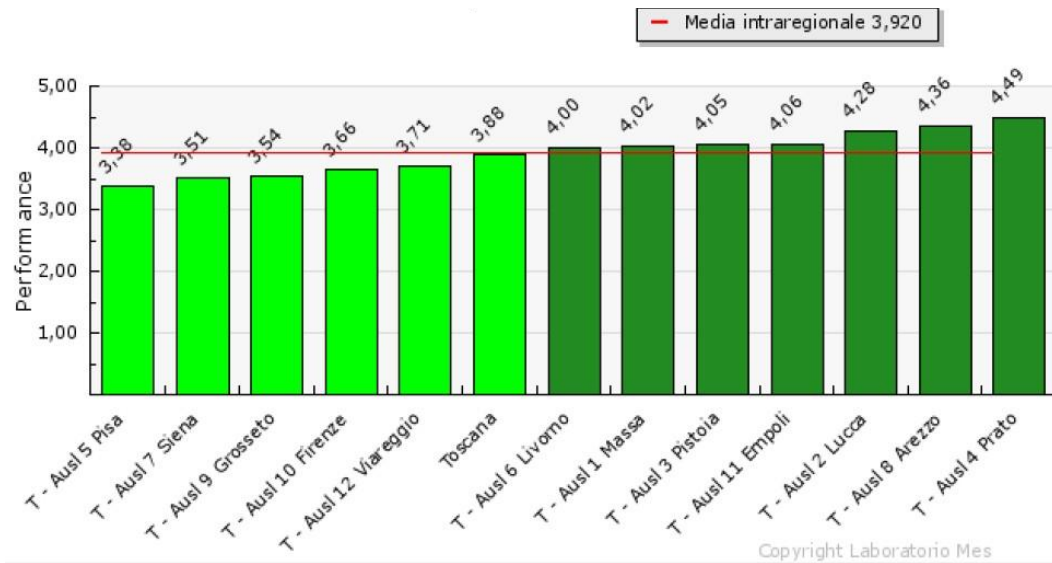


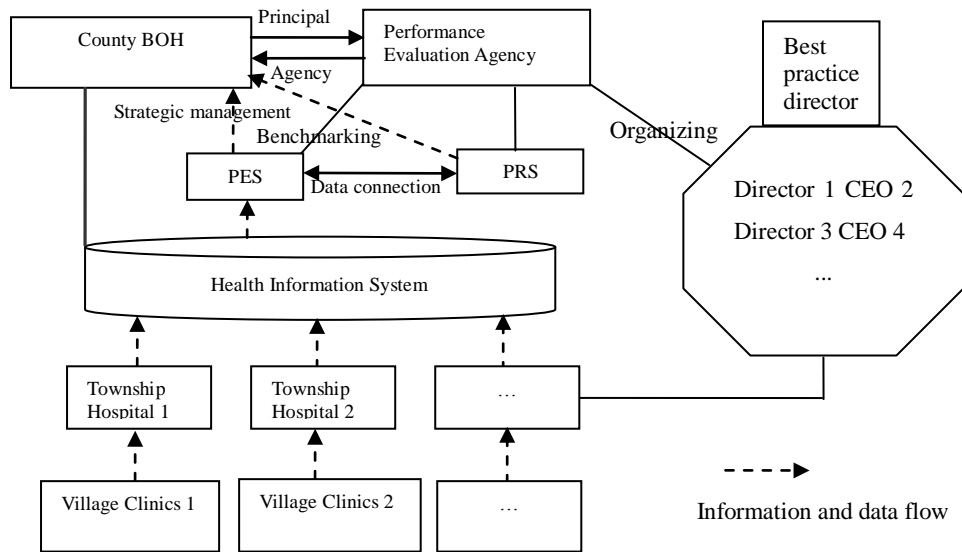
Fig 3: vaccination rate benchmarking (inter-organizational comparison)



#### 4 Discussion

In Italy, the administrative division is composed of regions, provinces and cities (towns). In contrast, except autonomous regions, municipalities, special administrative zones, the Chinese administrative division includes provinces, counties and towns. However, Italy is much smaller in its area and population. One Italian region is similar to a Chinese city in scale. The healthcare insurance system in Tuscany has no difference between rural and urban areas. Unlike Tuscany, in most Chinese cities, big gap exists between the rural and urban areas. However, the Tuscan experiences are referable to both urban and rural areas of China in that there is no bound as regards to the knowledge sharing of Tuscany's performance evaluation experiences, especially in China's current needs to learn from international experiences. The two sub-systems can be integrated into one after the gap of healthcare services provided between urban and rural areas are eliminated. China can first select some volunteer township hospitals of a county to do pilot experiments with the performance evaluation agency before fully applying the PES to all the township hospitals. Further, considering that China is lack of professional health managers in rural areas, the county BOH can commission a third party agency to train the directors and other top managers of the township hospitals. Only after they have learned the knowledge required by the PES can they be able to lead their employees to implement the PES successfully. Referring to the Tuscan experience, a conceptual model can be raised to build China's rural healthcare PES, as is shown in Fig 4.

Fig 4 A conceptual model of building the rural PES



#### 4.1 Information platform and legislation

The Tuscan PES does not collect the statistical data directly from the HAs and THs. Instead, it connects to the regional HIS to collect the data, which greatly reduced the resistance of the HAs and THs of not providing them. For other data such as patient satisfaction, employee satisfaction, maternal health assessment etc, surveys are conducted by the performance evaluation agency to directly collect these data (Nutti et al, 2009). The Chinese county BOH is the responsible authority to manage the township hospitals. The BOH is easy to collect the data with its information system from the information systems the township hospitals. The performance evaluation agency can connect the PES to the HIS of the BOH to finish data connection of statistical indicator data. Surveys can be conducted by the performance evaluation agency to finish non-statistical data collection. Further, legislation can provide important grantees to successfully implement the PES. When Tuscan carried out both the pilot experiment and the full implementation, the regional government had released many relevant decrees and some laws. In China's experimental counties, the county BOH can select some volunteer township hospitals to do pilot experiment with the performance evaluation agency and later extend the PES to all the township hospitals in the county, which comes in parallel with the construction of the PRS and legislation.

#### 4.2 Indicator design and data presentation

The township hospitals are similar in their scale, organizational structure, personnel and type of healthcare services provided. It is feasible to conduct structured performance evaluation and promote standardized set of indicators. The design of dimensions can refer to the Tuscan experience, from population health status, external patient satisfaction, the objectives of county BOH, internal staff assessment, clinical service quality, financial performance, etc. However, when designing the indicators in each dimension, the Chinese evaluation agency should fully consider China's own



features.

In China, the BOH in rural areas seldom publishes the performance evaluation results on the website in detail. Rural residents have no access to these evaluation results. This black box is dubious for its justice. Therefore, the in-transparency greatly decreased public participation and monitoring of the performance data. Considering this, when developing the rural PES, the performance evaluation agency can refer to the spider diagram to present the indicators scattered in their respective dimensions. By clicking the indicators in the spider diagram, detailed performance data can be accessed, matched with detailed definition of the indicator, measuring methods and figures with data. This presentation style can enable the readers to easily understand the indicator, which can facilitate the participation of the stakeholders. Further, the Chinese evaluation agency can summarize the performance data of all the township hospitals in a total spider diagram, forming a comprehensive rural PES at county level.

#### **4.3 Indicator selection and measurements**

Referring to the Tuscan experience, the acquisition of the indicators can come from two resources: (1) through literature review, combined with international and domestic practices; (2) through discussion by a panel composed of scholars and practitioners. According to Hurtado, et al (2001), three selection criteria could be: (1) the indicators have to capture an important performance aspect; (2) the indicators have to be scientifically sound; (3) the indicators have to be potentially feasible, giving priority of current data sources. Only those indicators that are agreed by a consensus meeting can be incorporated into the PES. The definitions of the indicators and their compositions, the procedures of data collection and the pattern of data presentation should be clear and consistent. Moreover, there are debates as to what extent the sub-indicators can explain the index indicator and how their weights are allocated. Concerning these issues, the Chinese county Bureau of Health, the performance evaluation agency, and the directors of township hospitals shall come to consensus, which can also help reduce the resistance of change during the implementation of the PES. With the accumulation of data, the performance evaluation agency can conduct sensitivity analysis to test the coefficients between the index indicator and its sub-indicators so that to improve the reasonability of the weights.

#### **4.4 Benchmarking**

Benchmarking has been mostly used by Chinese public hospitals to conduct self comparison. Although self comparison can help to find some problems existed in the hospitals, the scope is narrow and the bottle-neck may not able to be overcome without studying from peer township hospitals. Best practice experiences are difficult to be identified and innovative improvements are difficult to be achieved. Moreover, hospitals' behavior of choosing another leading hospital to do benchmarking spontaneously is also difficult to go to deeper: hospitals are competitors and are

unwilling to deeply share experiences between each other. In order to overcome these defects, the county BOH can make the performance evaluation agency to do benchmarking across its affiliated township hospitals. If all the township hospitals have a poor performance score on a specific indicator, this may be caused by a general problem and thus special attention should be given to from the county level, or this may reveal that the target was set too high. If there are big differences in performance scores in an indicator among the township hospitals, these differences depend on the specific hospital and some of them may be able to study from the others for better experience.

## **5 Conclusion**

This paper made a detailed discussion on how to construct China's rural regional healthcare performance evaluation system by referring to the Tuscan experience in Italy. However, The Tuscan PES is not built in a day. In order to perfect the whole set of indicators, Mes Laboratory has been replenishing the indicators year after year since 2005. Appropriate new indicators have been added into the system and existing inappropriate indicators have been moved out of the system and were not be adopted in the following year. This is a continuous innovation process that makes the PES become more and more complete and adequate to the system. Further, when the performance evaluation system is developed and put into use, along with the information platform and complete jurisdiction, relevant motivation and supervision mechanisms should also be in place to make sure that the PES can operate in a good condition.

## **References:**

- Chan YL and Seaman A. Strategy, structure, performance management, and organizational outcome: Application of balanced scorecard in Canadian health care organizations. *Advances in Management Accounting*. 2008; (17): 151-180. (in Chinese)
- Chen L, Xia JJ, Huang X. The application of balanced scorecard into community health performance evaluation. *Journal of Community Healthcare*. 2010; (4):231-232. (in Chinese)
- Gu X. The big trend of the world health care system reforms. *Social Sciences in China*, 2005 (06): 121-128 (in Chinese)
- Hurtado MP, Swift EK, and Corrigan JM. *Envisioning the national healthcare quality report*. The US Institute of Medicine. Washington. National Academy Press. 2001.
- Kaplan RS, Norton DP. Using the balanced scorecard as a strategic management system. *Harvard Business Review*. 1996; 74:75-85.
- Ministry of Health of China. China's statistical announcement in health sector development. 2010-04-29.  
<http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohwsbwstjxxzx/s7967/201104/51512.htm>
- National Bureau of Statistics of China. The bulletin of the sixth national census. 2011-04-28.  
[http://www.stats.gov.cn/tjgb/rkpcgb/qgrkpcgb/t20110428\\_402722232.htm](http://www.stats.gov.cn/tjgb/rkpcgb/qgrkpcgb/t20110428_402722232.htm)
- Nuti S, Vainieri M, Bonini A. Disinvestment for re-allocation: A process to identify priorities in healthcare. *Health Policy*. 2010; 95(2-3): 137-143.

- Nuti S, Barsanti S, Capitani G et al. Laboratorio Management e Sanita'. Il sistema di valutazione della performance della sanita' toscana – Report 2009, Edizioni ETS. 2010.
- Nuti S, Daraio C, Speroni C et al. Relationships between technical efficiency and the quality and costs of health care in Italy. *International Journal for Quality in Health Care* 2011; Advance Access published. March 31, 2011.
- Nuti S, Bonini A, Murante AM, Vainieri M. Performance assessment in the maternity pathway in Tuscany region. *Health Services Management Research*. 2009; 22: 115–121.
- Rosenheck R, Cicchetti D. A mental health program report card: a multidimensional approach to performance monitoring in public sector programs. *Community Mental Health Journal*.1998; 34(1): 85-106.
- Tang YH, Xue Q, Chen JC et al. The performance appraisal indicator system of public general hospitals based on balanced scorecard. *Chinese Hospital Management*. 2008; 28(5): 56-59. (in Chinese)
- Wu FQ, Song YX, Wang YY. A study on the method of science and technology management performance evaluation in local government. *Science Research Management*. 2007; 28(ZK, 03): 52-59. (in Chinese)
- Wan JC, Wang XW, The developing process of performance management in UK's health service system. *Chinese Health Economics*, 2008, 27(08):95-96 (in Chinese)
- Wang Z, Qiu Z, Lin JH. Comparative study of JCI accreditation with general hospital evaluation in China. *Chinese Health Quality Management*. 2008; 15: 20-22. (in Chinese)
- Xie YH. The five trends of healthcare reforms in Western countries: the case of UK, the United States and Germany. *Chinese Public Administration*, 2006 (05): 109-112 (in Chinese)
- Zhao L, Ye ZH. The study on the balance score card of graduate education institutes. *Science Research Management*. 2010; 31(04): 181-187.

# University Support to Regional Development – Process Based Stakeholder Management in Gotland

Raine Isaksson, Gotland University, [raine.isaksson@hgo.se](mailto:raine.isaksson@hgo.se)

## **Abstract**

Universities could be seen to have many customers such as students, future employers, the state, parents etc. Universities normally have two main missions, which are education and research. In Sweden there is an additional requirement of societal co-operation both in education and research. Universities are traditionally not very customer focused, but rather organizations that define what is being done based on an internal focus. One question is to what extent stakeholders and their change needs have been identified and also how these needs are being addressed and used as input. This could be studied applying a process view where the main processes are defined by the university mission. This could be studied from a regional context looking at regional needs and relating them to university support. Gotland is the smallest region in Sweden and it hosts the smallest university. This forms a good base for a study on how the university supports and could support regional development. Regional performance is viewed from a process perspective. Results show that customer focus has not been a core value. Consequently it is not well defined what constitutes quality, neither by the studied university nor by the Swedish authorities. This means that customer and stakeholder needs have not been looked into systematically. It also seems that regional Sustainable Development is not getting the attentions it should. Applying customer focus on the regional level indicates several new interesting opportunities for both universities and the region. A condition for these opportunities to be realised is that there is a thorough discussion of what quality and Sustainable Development mean for universities.

## **Introduction – regional customers and stakeholders**

One of the core values of quality and service management is customer focus. The customer defines what constitutes quality and when this is delivered there is customer satisfaction and there is continued business. With clarity of who the customer is and what is required it is relatively straightforward to work for excellence. Who are the university customers? At a first sight we could say that the students are, but then education in only rare occasions is the end product. The competencies learnt will in most cases be used by future employers who also are customers of the educational process. In many countries the government invests a lot in education. In Sweden higher education is free from tutoring charges with the government paying the bill. The one that pays the bill is also a customer. Universities carry out research that has the research community as customer and to some extent the university management who wants publications. Publication should not be an end product, but a first step in development of understanding and practice with business and society being customers. In Sweden there is a law that requires universities to work with Sustainable Development, which could make local and global development needs to be seen as a customer. Universities have the missions of providing education based on a scientific base and to carry out research. In Sweden there is an additional task which says that there should be cooperation with society both within education and research. In many cases the region hosting the university has expectations on it and the value produced. According to Bergman & Klefsjö (2010) the customer is defined as: “The people or organizations that are the reason for our activities”, i.e. “those for whom we want to create value”. This is equivalent to many other quality definitions focusing on the role of customer. We could view the region as a customer for the university. The Bergman & Klefsjö (2010) definition for customers borders the definition of

stakeholders. A stakeholder can be defined as: “Any identifiable group or individual who can affect the achievement of an organization’s objectives or who is affected by the achievement of an organization’s objectives” (Freeman & Reed, 1983). Customers are normally seen as being part of the larger concept of stakeholders. In ISO 26000 (2010) it says that: “A stakeholder has one or more interests that can be affected by the decisions and activities of an organization. This interest gives the party a “stake” in the organization that creates a relationship with the organization. This relationship need not be formal or even acknowledged by the stakeholder or the organization”. This can be interpreted in also seeing future generations and nature as stakeholders, even if there is no formal group advocating their interests. A stakeholder can be one who can affect the organization, but who at least theoretically is not receiving value and therefore is not a customer. In practical terms there might not be that many who are not receiving any value but only being affected. Even suppliers, authorities, financiers receive some value. For the purpose of this study the question of the region as a university customer is extended to studying the university stakeholders in the region. The purpose is to identify how a university could contribute to regional development by using the customer concept on all main stakeholders in a region.

The research questions are:

- How could regional stakeholders and stakeholder needs be identified?
- How could the process view be used to improve university services to a region?

### ***Methodology***

The work is based on a case study for the smallest region in Sweden, the island of Gotland and Gotland University which is the only university in the region. Gotland being an island provides clear regional boundaries. Gotland University is the smallest university in Sweden which makes the overview easier. An important part of the input for the case study is coming from other studies looking at different aspects of University support to regional development with focus on Gotland. An assumption underlying the study is that a region can be viewed as a collective of stakeholders and the university as a supplier of services. This means that common quality management can be used based on values such as customer focus, continuous improvement, focus on processes and decisions based on facts. The region is viewed and studied as a process delivering value to a number of different stakeholders.

### ***The process view applied on a region***

There are many definitions for what a business process is with one of the shortest being the one from ISO 9000 (2000): “Any activity or set of activities that uses resources to transform inputs to outputs can be considered a process”. In this paper the definition: “A process is a network of activities that, by the use of resources, repeatedly converts an input to an output for stakeholders”, is used (Isaksson, 2006). When using this definition it is important to remember that the process models used should acknowledge the existence of resources. The process view can be used to improve individual processes and to describe entire systems (Isaksson, 2006). In Figure 1 an example of a system model applied on the region of Gotland. The model is based on a common division of processes into management, main and support processes (Bergman & Klefsjö, 2010). Resources supporting all processes are described with a resource box. Resources are described as nouns and could be such things as equipment, personnel and even departments. A common misinterpretation when describing support processes is to mark them using the functional name as for example the “personnel process”, which in reality does not exist. There is the resource of personnel department that manages and supports processes such as recruiting, paying salaries, developing personnel etc. Processes should always be described as something being done. Resources could also be

abstract ones such as competence and culture. Any system studied exists in a larger context which forms an external resource. In this case the external resource is Sweden. The context has a big impact on the studied system. If the context would instead be for example Afghanistan the conditions for regional development would be rather different as would be the possibilities of the university to support them. The processes presented in Figure 1 should be seen as examples and there would for example be other management processes than managing sustainable change.

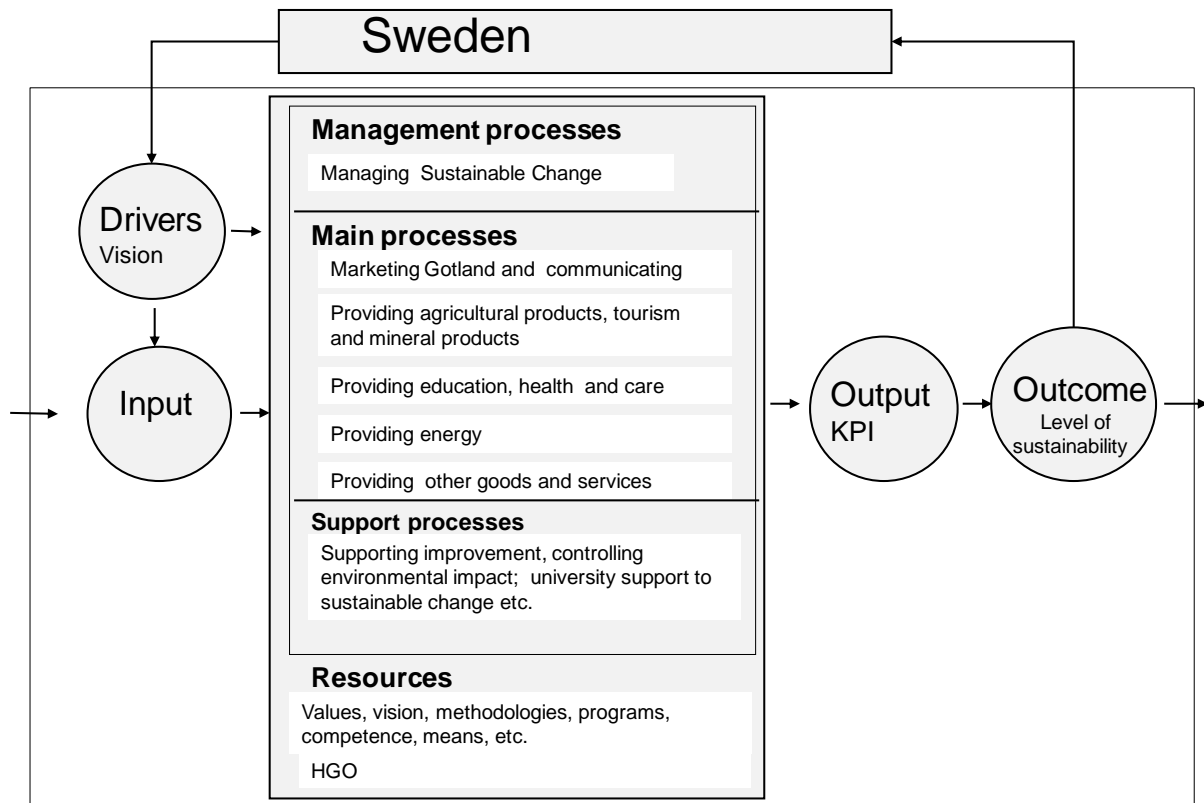


Figure 1. An interpretation of some of the main key processes in the region of Gotland (Abrahamsson & al., 2011).

Output is defined as the output from the process and outcome as stakeholder satisfaction. A common misinterpretation in process presentations is that output is presented as customer satisfaction. This can never be guaranteed. Even if output is according to specifications and the specifications are based on customer needs there could be dissatisfaction by some of the customers. Taking the example of the student as customer the output is the education, grades and exam received. The student then makes an assessment of this and expresses a level of satisfaction which will vary in a student group. If we look at the stakeholder nature the output could be energy used for the university premises and the carbon footprint. The outcome is the effect on for example global heating. Performance indicators as output and outcome can be used to define stakeholder expectations and current performance.

### ***Supporting Sustainable Regional Development***

Rockström & al (2009) identify nine planetary boundaries that need to be respected to assure that humanity can operate safely. These are global boundaries defined scientifically with measurable limits. Rockström & al. (2009) note that three limits have already been crossed, these being climate change, loss of biodiversity and the global Nitrogen cycle. The consequences of crossing these limits could be severe and in the worst case lead to a runaway

mode for the planet leading to unforeseen changes threatening the survival of many. The World Business Council on Sustainable Development (WBCSD) depicts in “Vision 2050 – The New Agenda for Business” a few scenarios why *Business as Usual* is bad for everybody including business, (WBCSD, 2010). The report identifies nine human related areas where dramatic change is needed until 2050. The identified areas are: People’s values, human development, economy, agriculture, forests, energy and power, buildings, mobility and materials. Scientists and the industry seem to agree that drastic change is needed and that time is running out. Drastic changes require innovative rethinking which logically should also apply to universities. It could even be expected that universities would be in the lead in terms of supporting innovative thinking for a more sustainable world. Higher education has an essential role in advancing the understanding of Sustainable Development (SD) and in providing society and industries with competent employees (Fien, 2002).

A Swedish government decree states that SD is an overall objective of all Swedish Government policies (Högskolelagen, 2006). The decree stems from a global long-term vision of SD and is related to international decrees and initiatives (c.f. United Nations and European Union). The environmental, social and economic dimensions of SD are expected to be pursued in a coherent manner by all Swedish public authorities and actively influence and shape all policy areas, including universities. This is reflected in the university law (Högskolelagen, 1992) stating that Swedish universities, through their activities shall promote a SD that ensures that both the present and coming generations are guaranteed a sound environment, economic as well as social well-being and justice. This indicates that politicians in Sweden have identified education as a core area for change towards SD.

A university taking its responsibility for work towards SD should relate to the main sustainability aspects both globally and regionally. We would expect that the university vision would indicate how work for reducing carbon emissions and reducing world poverty is carried out and also how Regional Sustainable Development is supported. Many problems, such as the curbing of carbon emissions, need to be solved within the next 10-15 years to avoid the risk of uncontrolled heating. The “safe” temperature increase is set at 1.5-2C above the historical average. Goals based on the vision should be such that major change is achieved within the next 10-20 years. It is the generation receiving their education now that will have the responsibility for making SD happen.

Sustainable Development is both a complex and a simple issue. There are many aspects from different disciplines involved and the time spans are long indicating that understanding of complex systems is required. On the other hand it is simple, if we continue doing things as before, carrying out only minor changes, we gamble with the future of humanity. As described above SD is not only an issue for natural science but one which according to people working with SD affects everybody and every topic taught in universities (Isaksson & Johnson, 2011). In all cases there are many possible issues within work for SD and seemingly in all cases there is a component of regional work for SD. Viewing the region and its stakeholders as customers and looking at their perceived and actual needs for SD could be seen as standard procedure for all universities.

Figure 1 could be used to describe the situation. There are apparent needs on the level of stakeholder satisfaction. Nature and global health are at peril. This should normally mean that there is a strong signal back that becomes a driver for the universities. However, this signal has to pass through the external resource of “Sweden”. The interpretation for this situation is that the external resource consists of the Swedish National Agency for Higher Education

(HSV) and the current practise in Sweden of how to work with SD in universities. Isaksson & Johnson (2011) indicate that one of the problems could be that HSV is not following up how the intentions of the law requiring work with SD is being carried out in universities. The indication is that HSV considers measurement to be too difficult. If HSV is not putting pressure on the universities to do more with SD then the signal from stakeholders is not translated to any strong driver. Isaksson & Johnson (2011) conclude that: "From a business management point of view the situation for vision and goals on SD seems to be poor. Even if one problem for universities could be the fact that the concepts of mission, vision, policy and strategy are not always fully understood by (university) employees the main problem could be lack of management commitment for change towards sustainability." The management could in this case be seen to be the university management but also the national management executed through the HSV. University management needs to focus on those directives given and since drivers for work with sustainable development are seemingly not very strong there could be less attention on SD.

### ***Stakeholder based Quality Management in Gotland***

This review is mainly based on work from Abrahamsson & al. (2011) who study if Quality Management can be applied on the regional level. Their assumption is that if we can view a region as an organisation we can also view it as a process. In Figure 1 their proposed result that identifies key processes for regional development. The results have focused on defining the main processes as based on the main activities in the region. The regional vision for 2025 has been studied as has the ongoing change work. The interesting part here is to see to what extent the region follows best practise for change work.

Abrahamsson et al. (2011) have reviewed the Gotland Vision 2025 document and compared it against elements in TQM according to Bergman & Klefsjö (2010):

- |                            |  |
|----------------------------|--|
| • Values                   | Have not been identified and communicated                              |
| • Vision                   | Has been approved and communicated 2008                                |
| • Missions                 | Partly described in Vision 2025 and described in the special programs. |
| • Goals                    | Partly described in Vision 2025 and actions plans                      |
| • Critical success factors | Partly described in actions plan                                       |
| • Key Processes            | Not identified   |
| • SMART - Metrics          | Suggested metrics in Balanced Score Cards for some of the goals        |

Abrahamsson & al. (2011) also summarise an analysis of the vision 2025 and its parts and how this could relate to Gotland University:

- At least 65 000 residents living on Gotland
  - This is not really a pure vision, but the strategy that the region has chosen for achieving the vision. The unspoken assumption is that with more people there will be more tax money to pay for the public administration. This means that actually what is looked for is a higher earning potential. A direct link to the existing education and research fields could not be found.
- Gotland prosperity among the best in the country
  - The Gotland University department of Business Administration has basic higher education that would fit in well with what the regional organizations need to fulfil the vision. Still, regional co-operation is limited. Quality



Technology and Management has evaluation models and development models for Organization Excellence (MBNQA, EFQM and the Swedish SIQ), but nothing of this currently used.

- Gotland is the natural place for rendezvous in the Baltic Sea Region
  - This is not really a pure vision, but the strategy that the region has chosen for achieving the vision. A direct link to the existing education and research fields could not be found.
- Gotland has a population with good health who experiences the highest wellbeing in the country
  - Developments in health are clearly linked to the development of activities in service and the service sector. Lean in healthcare is the most obvious link for this. Quality Technology has higher education that fits in well with what the organization needs to fulfil the vision. Some co-operation is taking place with training of university management in Lean.
- Gotland is a world leading island-region of environmental and energy issues
  - Environmental and climate issues are represented in several courses at HGO. Wind Power and Biology are among the topics that fit in well with what the organization needs to fulfil the vision. The Swedish International Centre of Education for Sustainable Development (SWEDESD) is a department of Gotland University and could work as an important competence resource. Quality Management competence could also be a support for environmental improvements.

The general impression is that there would be a number of rather simple improvements in clarifying the main element of improvement work and in bringing all participants up to a certain level. Gotland University has been part of the vision-work at least formally, but even if the university in the regional documentation is mentioned as the engine of development there are few visible results on the practical level. The lecturer competence within relevant areas such as marketing, business development, quality management and knowledge management has not been used to any greater extent in the vision work or in co-operation with society within education and research. The impression from the critical review of the regional change work from a Quality Management perspective is that there seems to be considerable improvement potential in working more effectively with change. The vision work is supposedly open and information is presented on the regional web-sites. Even if more than three years have elapsed of the vision project no results for progress have been found on the web-site. In the view of the importance of making Sustainable Development happen at all levels it is worrisome that regional change work towards a visionary state is slow.

The Gotland university vision from 2010 states: “Gotland University is a small university with a big idea. We are the leading university for modern education, Liberal Education. The quality of our training is strengthened by the link to our multi-disciplinary research environment and by our clear regional and international linkage. The university is leading in flexible forms of teaching. Curiosity and a shift in perspective is the driving force for students and employees in accordance to the University's motto, Passion and science.”

There is a mention of a clear regional linkage, which should mean focus on regional development. The concept of Liberal Education with focus on practically related education giving students a broad view and learning them critical thinking should be well suited for increased educational contacts with regional organisations. However, there are no clear goals linked to the vision that can be found on the university web-site.

Abrahamsson et al. (2011) conclude that provided interest the regional vision work structure could be considerably strengthened using quality management practices and it could be visualised more clearly using process models. They also conclude that with the current scope of curricula in Gotland University there would be good opportunities for increased collaboration between the university and the region that could support regional development. In the analysis of different curricula and their relevance to regional development particularly the topics of Business Administration, Quality Management, Energy Technology, National Economy, Biology, Teacher training and Social Geography seem to be of interest.

Regional development is a broad task involving many activities. It could be support given to SMEs, public planning and permission giving processes, focus on particular areas of functional competence such as tourism, education, health care, wind power, agriculture, financial services etc. These activities should be of interest for many types of students but at least for those from the topics mentioned above. Problem based learning with focus on adding value to the host organisation might be a win-win solution. Students would get much appreciated practical exposure and organisations could get support in their development. This could be viewed as corresponding well to the Gotland University dedication to Liberal Education. Provided these activities are done in a larger context of improvement, which also is the focus of studies, it could be possible to combine problem based learning with action research as part of regional development.

### ***University Stakeholder Quality***

As part of a research project studying the needs of Gotland SMEs within manufacturing the preliminary results indicate that there is need for increased support within logistics, management systems and engineering competence. However, it seems that there is no recent survey actually asking what SMEs on Gotland would need. Generally there seems to have been no systematic identification of stakeholders and their needs from the part of Gotland University. This could be related to the fact that the customer concept in Swedish Universities is not very clear. When studying the web-site for the Swedish National Agency for Higher Education (HSV) there is no explicit definition of what quality is or who the customer is (Ljungblom & Isaksson, 2011). An example of a common quality definition is “the quality of a product is its ability to satisfy, or preferably exceed, the needs and expectations of the customers” (Bergman & Klefsjö, 2010). A customer can be defined as: “The people or organizations that are the reason for our activities”, i.e. “those for whom we want to create value” (Bergman & Klefsjö, 2010). However, it seems that HSV has neither defined quality nor customer. On the official HSV web-site – [www.hogskoleverket.se](http://www.hogskoleverket.se) - an extensive list with several hundred entries of how different expressions are defined is without any mention of customer or quality. HSV refers to European Guidelines that describe Quality Assurance (ENQA, 2009). However, we have not found any definitions on who the customer is and how quality is defined. This issue needs further research in the form of interviews and document studies. Provided the first indication is correct then there could be a serious problem in that the lack of understanding the basics of quality and customer focus would mean that directives for universities are not very clear. Swedish authorities require that universities have an environmental management system based on ISO 14001 but there is no similar requirement involving ISO 9001.

Gotland University has not defined who the customers are. The expression is not even used. To the extent anybody is viewed as customer it is the student. This could be qualitatively explained looking at Figure 1. The main drivers could be seen as directives from the state and

HSV. Since the apparent needs for regional development are not translated into drivers there is a problem in the feedback loop from the level of stakeholder satisfaction back to drivers. This could at least partly be because the external resource of “Sweden” or more specifically in this case the culture and common understanding of what is quality does not identify key stakeholders and their needs and cannot translate sustainability needs into operational directives. In practical terms this means that the external drivers for Gotland University in working with regional stakeholders and with sustainable development are weak. Provided lack of internal drivers there is limited interest in asking the question: “How could Gotland University help Sustainable Development in the region?”

When this question is of interest we can identify who the customers and stakeholders are and what they perceive as quality. For the university, important customers are all the organisations in the region, both private and public. They can be customers directly by co-operating within education and research or indirectly by employing students and benefiting from research done. Figure 1 describes some of the main organisational groups that could be customers. Finding out requirements here could be done with surveys and interviews. This would clarify the feedback loop from the current level of stakeholder satisfaction – the process outcome – and relating it to university capabilities. Ljungblom & Isaksson (2011) look at educational quality by looking at requirements from students, employers, state & HSV and university management. It seems that the follow up is mainly on those areas where it is mandatory, like measuring the student perceived quality with course evaluations. Whether topics taught are relevant is not assessed. How the employability is and if students are satisfied with what they learnt after they have started working is not measured regularly. Arguments for not measuring are such as that it is too difficult and that employability is not a good measure. HSV does not require the measurement of employability or employer satisfaction even if employers could be considered to be important customers for university services. This can be seen to support the indication that the authorities controlling quality – HSV – might not have fully understood the quality concept.

### ***University Knowledge Management***

Ljungblom et al. (2011) define Knowledge Management (KM) as a six stage process:

- 1) Identifying the knowledge that needs to be managed
- 2) Acquiring the identified knowledge
- 3) Refining and processing the acquired knowledge
- 4) Storing the processed knowledge
- 5) Sharing the knowledge
- 6) Applying the knowledge in processes and products

For any organisation it is important to know what the core knowledge is that needs to be managed. University knowledge management strategies could at least partly be based on what stakeholder needs there are in the region. The knowledge management process above could be introduced into the process based regional system model (Ljungblom et al. 2011), see Figure 2.

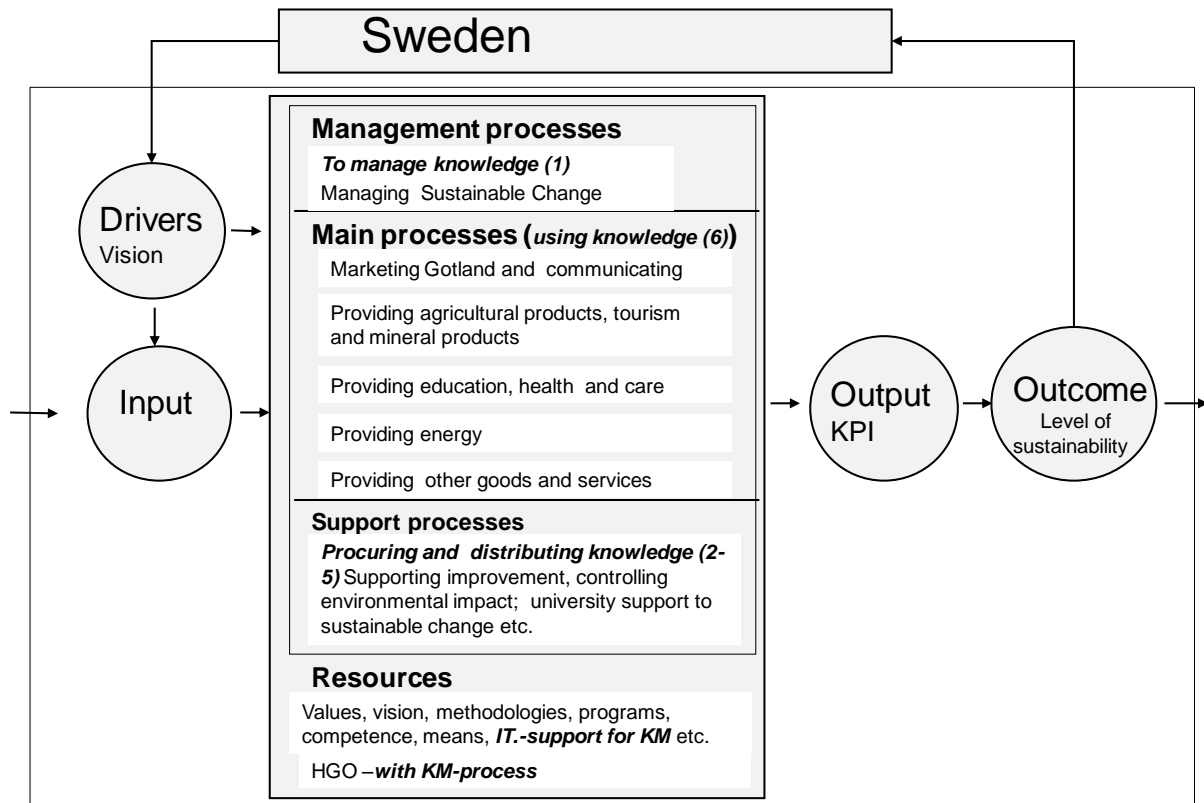


Figure 2. The region of Gotland described as a system of processes where key processes and resources have been identified and linked to the steps in a Knowledge Management process. Ljungblom & et al. (2011) and adapted from Abrahamsson et al. (2011).

Gotland University currently hosts a centre for Wind Power information, which could be seen to be a knowledge management process (Ljungblom et al. 2011). The focus in the Ljungblom et al. (2011) study is on how to carry out knowledge management of change management. Considering the requirements on change indicated in the Gotland Vision 2025 there should also be a need of using the best available knowledge on how to manage and lead change. Ljungblom et al. (2011) present the idea of creating a centre of Change Management information emulating the centre of Wind Power information. Currently the competence and research generated within quality and change management is not easily available for regional stakeholders. Technically it is not very difficult to make relevant information accessible. However, the challenge is to make step 6 in the knowledge management process happen: “Applying the knowledge in processes and products”. This requires that the stakeholders concerned see the value of the knowledge and that they are able of converting it to practical use. This is another issue that would require that there is customer and stakeholder focus from the part of the university.

## Conclusions

All answers to the research questions are indicative and need further research to be confirmed. Based on the first review and reasoning some preliminary answers can be suggested to the questions:

- How could regional stakeholders and stakeholder needs be identified?
- How could the process view be used to improve university services to a region?

It seems that the process view can be used to describe regional stakeholders by using a process based system model. It also appears to be possible to use a basic customer based

quality definition to find out which the main needs are. When there is an acceptance of seeing identified stakeholders as customers, work could be done rather easily to describe main stakeholders and their needs. Organisational needs could be defined as employment needs and needs for particular areas. Many of the companies on Gotland are very small and would logically need support with different types of competency.

The second question of how the process view could be used to improve university services to a region has a similar answer as the first question. The customer concept needs to be defined and understood. Customers are those that receive value from the university processes. Employability is sometimes criticized as a too narrow objective for university education. There should also be something which can be described with the German word “Bildung”, which is more than just education. One Swedish interpretation is that the students should have learnt critical thinking and be able to manage in different contexts. Another is that Bildung is related to a classical education. In the Gotland University version with Bildung in Liberal Education this means that students have to take courses from different topics to broaden their horizons and to have increased contacts with working life. Irrespectively of what Bildung is it could be argued that there should be a customer for this, which should not only be the student itself. Bildung should be detectable by others including employers. If Bildung cannot be detected by others, then the question is how we can know that it exists? How, would we know if this contributes to regional development? One possibility could be for the university lecturers and researchers to engage in the local debate in controversial issues, for example relating to Sustainable Development reviewing how the planetary boundaries as well as the industrial challenges identified could be handled by the region. Here, lecturers and researchers could all be part in supporting society in translating complex global demands into topics for practical discussions and practical solutions with people in the region.

As for education, for research, there should be customers. It should be possible to assess how the region has benefited from research carried out. This would require following research results beyond the scientific publications to see how the knowledge has been used. The process view can be used to identify regional customers and customer needs with the purpose of improving the work done for the region.

### ***Discussion***

The working hypothesis that emerges from the research is that the Swedish National Agency for Higher Education (HSV) has not defined what quality is and who the customers are based on existing research. There is therefore the risk that the word is used with different meanings and that directives to universities are not very clear. The customer definition could be broadened to stakeholders and issues relating to Sustainable Development, which would enable improved focus on Sustainable Regional Development. However, at this level directives from HSV are vague, possibly because like quality, the concept of sustainable development has not been clarified and translated to the operational level. Ljungblom and Isaksson (2011) discuss different quality concepts with focus on the user and the value based concepts. The value based relates the customer perceived user value to the cost of it. This could be further worked with and related to sustainability as value per harm (Isaksson and Steimle, 2009).

This pilot work based on Gotland and Gotland University creates interesting hypotheses and highlights possibilities for increased support from universities to Sustainable Regional Development. Several interesting research opportunities emerge. As a start a web-survey of private and public organisations followed up by some interviews could help to define regional

needs and regional expectations for the university. Since the region of Gotland is small with 57000 inhabitants the work should be manageable. Primarily different stakeholder groups and their needs should be identified and then matched to current and future university capabilities.

## References

- Abrahamsson, S., Fredriksson, M, and Isaksson, R. (2011). University Services for regional Development - Ideas on Stakeholder Based Quality Management in a Region. *Proceedings of the International Conference- Quality and Service Sciences*, 14th QMOD Conference, August 29-31, San Sebastian, Spain.
- Bergman, B. & Klevsjö, B. (2010) *Quality from Customer Needs to Customer satisfaction*. Studentlitteratur, Lund.
- ENQA (2009). Standards and Guidelines for Quality Assurance in the European Higher Education Area. Downloaded July 1, 2011 from [http://www.enqa.eu/files/ESG\\_3edition%20\(2\).pdf](http://www.enqa.eu/files/ESG_3edition%20(2).pdf).
- Fien, J. (2002) Advancing sustainability in higher education – Issues and opportunities for research. *International Journal of Sustainability in Higher Education*, (3)3, 243-253.
- Freeman, R.E. & Reed, D.L.(1983). Stockholders and Stakeholders: A New Perspective on Corporate Governance. *California Management Review*, (25)3, 88-106.
- Högskolelagen (1992). Chapter 1 § 5 Högskolelagen 1992:1434 (In Swedish). Downloaded July 8, 2011 from <http://www.riksdagen.se/webbnav/?nid=3911&bet=1993:100>
- Högskolelagen (2006). Regeringens skrivelse 2005/06:126 (In Swedish). Downloaded July 8, 2011 from <http://www.sweden.gov.se/content/1/c6/06/06/92/5ff0d494.pdf>
- Strategiska utmaningar – En vidareutveckling av svensk strategi för hållbar utveckling
- Isaksson, R. (2006). Total Quality Management for Sustainable Development – process based system models. *Business Process Management Journal*, (12)5, 632-645.
- Isaksson, R and Johnson, M. (2011). Sustainable Development in Universities – The power and role of visions and goals. *Proceedings of the International Conference- quality and service sciences, 14th QMOD Conference*, August 29-31, San Sebastian, Spain.
- ISO 9000 (2000). Quality management systems - Fundamentals and vocabulary. [www.iso.org](http://www.iso.org)
- ISO 26000 (2010). *Guidance on Social Responsibility*. [www.iso.org](http://www.iso.org).
- Ljungblom, M. & Isaksson, R. (2011). Educational Value in Distance and in Campus Education seen from a Stakeholder Perspective – The Case of Sweden. *Proceedings of the International Conference- Quality and Service Sciences*, 14th Toulon-Verona Conference, September 1-3, Alicante, Spain.
- Ljungblom, M., Isaksson, R. and Hallencreutz, J. (2011). University Services for Regional Development – The case of Knowledge Management of Change Competence in Gotland. *Proceedings of the International Conference- quality and service sciences, 14th QMOD Conference*, August 29-31, San Sebastian, Spain.
- Johan Rockström, Will Steffen, Kevin Noone, Åsa Persson, F. Stuart III Chapin, Eric Lambin, Timothy M. Lenton, Marten Scheffer, Carl Folke, Hans Joachim Schellnhuber, Björn Nykvist, Cynthia A. de Wit, Terry Hughes, Sander van der Leeuw, Henning Rodhe, Sverker Sörlin, Peter K. Snyder, Robert Costanza, Uno Svedin, Malin Falkenmark, Louise Karlberg, Robert W. Corell, Victoria J. Fabry, James Hansen, Brian Walker, Diana Liverman, Katherine Richardson, Paul Crutzen, and Jonathan Foley. (2009). *Ecology and Society*, 14(2):32
- WBCSD (2010). *Vision 2050. The New Agenda for business*. [www.wbcd.org](http://www.wbcd.org).

# The learning process of health service procurement

## *Authors*

Stefan Lagrosen, Ph.D.  
Professor of Marketing and Management  
University West  
EI  
461 86 Trollhättan  
Sweden  
stefan.lagrosen@hv.se

&

Yvonne Lagrosen, Ph.D.  
Senior Lecturer in Quality Management  
University West  
IV  
461 86 Trollhättan  
Sweden

## *Abstract*

Buying behaviour comprises a complex set of decision processes. These decisions are constantly influenced by expectations and experiences of service quality. Scholars have proposed that the development of buying behaviour constitutes a learning process. Organisational buying behaviour is even more complex as it involves several people making it dependent on organisational culture. Consequently, organisational buying behaviour could be viewed as a case of organisational learning.

In the study reported in this paper, we examine the buying process of organisations procuring health services. A qualitative study was carried out involving 11 Swedish organisations including private companies as well as public organisations. Data was collected through in-depth interviews. Depending on the size of the organisation and the access achieved, between one and five interviews were carried out at each of the organisations giving a total of 27 interviews. The interviews were analysed with methods inspired by the constant comparative method from the grounded theory approach. The process of procurement is described and its learning aspects are analysed as well as its connection to health promotion. As a result, a framework describing health service procurement as a process of organisational learning is presented.

## *Keywords:*

Organisational learning, Health services, organisational buying behaviour, health promotion

## ***Introduction and purpose***

Health is an important issue for organisations of all kinds. Health problems are common in today's organisations. Research has shown that work related health problems in Europe tend to increase and that 60% of European workers have experienced at least one work-related health problem (2003). Apart from human suffering, these problems cause costs for the organisations. As a response many organisations purchase health services of different kinds.

All types of buying behaviour consist of a number of complex decision processes in the human brain that lead to behavioural change. Changes in behaviour caused by experience constitute a learning process which is not necessarily intentional and if not it is known as incidental learning (Solomon, 2004). Learning constitutes a shaping of mental constructs which decide what we see as normal and this process often occurs without any reflection from the mind taking it in (Nordfält, 2010).

Organisational buying behaviour is even more complicated. It involves many people, both the customer and the supplier are many-headed which means that they are driven by different people having different personal roles and goals (Gummesson, 1999). The buying process varies substantially depending on the product, its importance, the size of the purchase, the market etc. (van Weele, 2010). The transactions often take place in the context of relationships in which the respective abilities and uncertainties of the parties are matched or mismatched (Ford et al., 1998). Accordingly, organisational purchasing can be seen as learning processes in the organisation. Such processes are studied in the field of organisational learning (Argyris, 1993; Senge, 2006). This field aims to find ways of creating profound learning processes in organisations.

Although, organisational purchasing can be viewed as a learning process its connection to organisational learning theories have attracted little research. In addition, the procurement of health services has largely not been studied with scientific methods. Moreover, the theoretical field of health promotion has been developed in order to promote health in organisations and society. Nevertheless, research on purchase of health services from a health promotive perspective is still lacking. In consequence, the purpose of this paper is to examine procurement of health services and relate it to the theories of organisational learning and health promotion.

In the rest of the paper we will present a theoretical framework from the fields of organisational learning and health promotion. Then we will present an empirical study which we have carried out in order to address the problem. Based on these two parts we will present an analysis connecting the findings to the theories of organisational learning. Finally, we will present the conclusions and implications of the research.

## ***Organisational learning***

Organisational learning is a theoretical field that has been created with the aim of stimulating more sustainable success in organisations. In this way it is meant to counterbalance the short-sightedness that tends to dominate companies in the Western world. Organisational learning can be seen as consisting of different levels (Senge et al., 2005). The more profound levels imply the creation of a greater sense of wholeness. If a truly genuine learning is to be created in an organisation the core values of the organisation must be influenced (Argyris, 1993; Argyris and Schön, 1996). Such profound learning is called double-loop learning. Often,



changes in organisations are attempted through changes in organisational structure, ways of working, technology, communication etc. Nevertheless, these changes will only be effective if they are related to changes in thinking and values of the members of the organisation (Schneider et al., 1996).

A learning organisation is characterised by the participants learning together with the aim of creating results which they genuinely strive for. In this way new and more expansive patterns of thinking can be created (Senge, 2006). Learning in organisations is also connected to emotional intelligence as learning is more effective if coupled with high emotional self-awareness (Goleman et al., 2002; Grewal and Salovey, 2005).

Arguably, the most influential framework in organisational learning theory is the five disciplines defined by Senge(2006):

- *Personal mastery.* As a discipline, personal mastery contains two parts. The first concerns the importance of realising what is important for us. Often, people spend so much time dealing with daily issues that they lose sight of the deeper goals of their lives. Instead, they should approach our lives as a creative process directed towards higher ideals. The second part entices people to see reality more clearly. Many organisations live in a self-made web of illusions which can only be broken through profound learning.
- *Mental models.* Unaware to us, our behaviour is often guided by deeply rooted inner images of the world around us which limit our thoughts and action to that which is already familiar. Accordingly, profound change requires these images to be made conscious and challenged. The way to do this is to slow down the thinking process so as to become aware of its underlying assumptions.
- *Shared vision.* This is a vision that is common to all the people in the organisation. If it exists it constitutes an impressive power which gives focus and energy for learning and development. Achieving a common vision takes time and it can be a painful experience. However, if the organisation succeeds in transforming the individual visions of its participants into a sustainable shared vision, truly profound learning will result.
- *Team learning.* Usually, team members have different ambitions and priorities, leading to waste of energy. If, however, the energies of the members of a team can be aligned, striving in the same direction, the result is extremely powerful. This alignment requires dialogue and deep listening, skills which can be developed through reflective praxis.
- *Systems thinking.* This discipline carries Senge's main argument. This is the one discipline which integrates the others and constitutes the basis for them. It implies that organisations should be seen as open systems in which all parts interact with each other as well as with the environment. Through this holistic perspective deeper patterns can be seen which enable sustainable solutions rather than short-term fixes. Moving away from the traditional reductionist linear way of analysis, the fifth discipline strives to discover feedback loops where all influences are both causes and effects.

## ***Health promotion***

The academic discipline of health promotion has been developed as a way of approaching the health problems in working life and society. It has led many organisations to launch projects of health promotive character.

Traditional health care builds on a *pathogenic* perspective. The focus is on ill-health. Diseases and other health problems are studied in order to learn how they can be cured or prevented. The perspective of health promotion, in contrast, is *salutogenic*. The focus is on health and how it can be improved for individuals, groups, organisations and society (Winroth and Rydqvist, 2008).

Arguably, the most important contribution to the field of health promotion stems from the research by Antonovsky(1987). Studying people who had managed to uphold good health in spite of traumatic experiences he developed the concept *sense of coherence* as a prerequisite for good health. The concept contains three themes (ibid.):

- *Comprehensibility*. This is the core of the concept. It concerns the way we react to events and impressions of life. With high comprehensibility, we see them as rationally understandable rather than random and perplexing.
- *Manageability*. People with low sense of coherence tend to view themselves as victims of bad luck which they believe will continue. On the other hand, people with high sense of coherence experience that even if they meet many difficulties in life, they can handle them. They do not regard themselves as constantly unjustly treated; instead they handle their problems and carry on with life.
- *Meaningfulness*. People with high sense of coherence have faith in the meaning of life. They feel that it is worth living and they have something that they strive for and want to achieve.

## ***Methodology***

As we wanted to achieve a profound understanding of the health service procurement process that could be related to the abstract concept of organisational learning, we realised that we needed to base our study on qualitative methods. We chose to carry out case studies in a number of organisations. Case studies do not allow statistical generalisation but when several cases point in the same direction, analytical generalisation can be made (Yin, 1994). For this reason, we wanted to study a fairly large number of organisations from a variety of sectors. The sampling was based on theoretical sampling (Glaser and Strauss, 1967) in that we chose to approach the companies and people that we figured would be able to provide us with the most useful information. In total, eleven organisations were studied. They are presented in Table 1.

<b>Organisation</b>	<b>Description</b>	<b>Comment</b>
Försäkringskassan	Social insurance organisation	Governmental
Göteborgsstad, Backa	Municipality district council	Part of the municipality of Gothenburg
Hennes&Mauritzmailorder	Fashion retailer	The mail order branch of the fashion chain
Ica Kvantum/Hajen	Food retailer	A fairly large shop that is part of one of Sweden's major food chains
Lab. gruppen	Producer of amplifiers for the audio market	Medium size company
SCA	Producer of tissues, paper and personal care products as well as solid wood products	One of Europe's biggest actors in the paper, hygiene and forest industry
Siba	Electronics retailer	One of the leading electronics chains in Sweden
Södra Cell Värö	Producer of paper pulp	One of the world's biggest paper pulp producers. Most of the production is exported
Varbergskommun	Municipality	A medium size municipality in the south west of Sweden
Varbergssparbank	Retail bank	A small, local savings bank
Volvo Penta	Producer of marine engines and applications	Part of the Volvo group

Table 1. The companies included in the study

The data were collected through in-depth interviews (Patton, 1990) with representatives from the organisations. Depending on size and access, students trained by the authors carried out between one and four interviews at each company giving a total of 27 interviews. The interviews were of a conversational nature and no fixed questionnaires were used. The respondents were encouraged to speak freely from their own hearts and the interviewers were instructed to probe on interesting points.

The data from the interviews was analysed by the authors based on the constant comparative method from the grounded theory approach (Glaser and Strauss, 1967; Strauss and Corbin, 1990; Glaser, 1992). Efforts were made to let categories emerge inductively from the data.

## ***Findings***

When the data from the interviews were analysed the following categories emerged:

### **Activities**

Most organisations offer a fairly wide range of activities. Some of the most usual are:

- Lectures on health issues
- Massage
- Massage-chairs
- Pedometers and step-counting competition
- Health examinations
- Sports t-shirts and other profile clothes
- Coverage of the fees for marathons and other races
- Access to a gym either in the form of an own gym on the companies premises, contracts with commercial gyms or grants that the employees can use in a gym of their choice or sometimes also for other health or sports activities.
- Poles for Nordic walking
- Vaccinations
- Smoking cessation programmes
- Common sports activities

In addition, most companies offer occupational health services with access to doctors, nurses, psychologists and physiotherapists. Some of the larger organisations have such units in their own organisation while the smaller companies usually offer them through contracts with professional health service providers.

Some organisations have also realised the importance of leaders as role models. They work with health promotive leadership training in order to create more healthy work places. Some of them also take a broader perspective in that they have their vision as a vantage point for their health service purchases. The salutogenic perspective was sometimes seen in these organisations. They saw their health promotive activities as a way of promoting health and well-being for all employees. Other organisations had a more pathogenic view of their activities focusing on treating or preventing health problems.

### **Information search**

Many initiatives come from managers who note health problems or from the employees themselves. Sometimes, they use employee surveys for information about the health status of the employees, their needs and wants regarding health services and potential health problems. One company does this in collaboration with a university and another with a market research company. Nevertheless, there is frequently a problem of low response rate. Often the information comes through word of mouth and media reports on trends in the health market. Health activities in the organisations that were more active were often driven by managers who had a profound interest in health themselves.

All organisations report that they often receive cold calls from different companies wanting to sell health services or products of different kinds. Such calls are, however, usually rejected and often frowned upon. Some of the companies have strict policies not to purchase health

services that are not scientifically proven and only using authorised health professionals. The potential providers are sometimes also assessed based on their financial data.

## **Procurement process and organisation**

Some companies have created special units for handling health related issues including procurement of health related services.

The process depends very much of the size of the purchase. The procurement process for smaller investments is usually rather fast. More costly procurements are normally included in the one-year plan and budget except for smaller companies in which decisions are taken more ad hoc. Some companies have strict procurement policies but they generally do not apply to peripheral services such as health services.

The governmental organisations in the sample are restricted by the law of public procurement. This means that they must have public tenders and rate the bidders on rational criteria. The offer that is most economically viable (which does not necessarily mean the cheapest) must be chosen. The selection process may consist of several steps: first they publish the call for tenders including criteria for evaluation of the offers. Then they have a prequalifying round in which they select those bidders that fulfil the mandatory criteria. Next they evaluate these offers based on the quality they offer in relation to the price they charge. This evaluation must be based on the criteria that were published in the call. At this stage they often call references and search for public information on the bidders. They sometimes have specific councils for human resource related purchases which take the decisions.

Other companies form temporary groups for specific health projects and they may also use call for tenders if they are to make a larger investment (more than €20 000/year). Some companies use computerised procurement systems.

Often, lower level managers such as department managers have own budgets which they can use for purchasing health services of lesser costs. More costly procurements are sometimes decided by specific boards but most often by the human resource manager or, in the case of smaller organisations, the top manager. Usually, the trade unions are also involved. Several companies have employed health coaches who may have smaller budgets for procurement themselves and in particular they have a considerable influence also on larger procurements. The training and education of these health coaches is an important issue.

## **Relationships**

Some companies collaborate with other neighbouring companies in their health services procurement as this gives them more negotiating power towards health companies. In addition, purchasers often search information through their informal network of relationships.

Several companies have electronic databases listing suppliers that are approved which are preferred when choosing a contractor. Normally, health services are purchased from providers with whom the organisations already have a relationship. Sometimes rather close relationships are formed with certain providers. For example, companies often have one occupational health care provider that takes care of all traditional health care and possibly even the procurement of health services. They might also have one fitness centre with which they have contracts for their employees to use. The rationale for this is to have continuity in the health

services offered which they believe leads to a greater sense of security for the staff and thus a higher propensity to use the services offered. Even those companies that have several health service providers prefer not to have too many. On the other hand, the organisations sought to have relationships and even contracts with specific people rather than with companies. They wanted to make sure that they always used the most competent people.

## **Empowerment**

In most companies, the employees are allowed to suggest procurement of health services and they seem to have a substantial influence over which services are procured. Often employees who have a certain health interest induce procurement of services in line with their interest. For instance, in one company, employees interested in running have managed to make their employer cover the fees for the local half-marathon race as well as providing t-shirts with the company logotype. In some of the organisations the employees have formed health organisations or sports clubs.

## **Participation**

A major problem for the organisations is to make people participate in the activities. Often there is a group of health conscious and active employees who participate while the others are uninterested, inactive, living sedentary lives with unhealthy eating habits leading to health problems and costs for the company. Activating this second group is seen as a difficult challenge. One approach is to focus on those that are active in the hope that the effects on health and quality of life that can be seen on them will encourage others to also partake of health activities. Sometimes, there are enthusiasts among the employees that really do inspire their colleagues. For example, one Nordic ski aficionado managed to make 10% of the employees of his organisation participate in the Vasa Ski Race (a tough challenge over 90 km). Another problem is that many employments have such a high time pressure that the employees find it hard to take time off for health activities.

## **Evaluation**

Some organisations make efforts to measure the effects of their health investments. Nevertheless, this is not very easy. They use statistics such as sick leave figures but they are difficult to relate to specific activities. For the activities as such they usually measure the number of participants and activities with low participation risk being discontinued. Some of the companies register all complaints and other use surveys to measure the satisfaction with the services provided. Nevertheless, complaints are often anecdotal and surveys often have low response rate. Sometimes, the satisfaction with health activities is taken up in performance reviews or development talks.

Due to the difficulties involved and lack of time several organisations have abstained from trying to measure the effects of the health services.

## ***A framework for procurement as a health promotive learning process***

Viewing the findings through the lens provided by the framework of organisational learning and health promotion, the following points came up:

### **Activities**

Many health activities probably have the effect of increasing personal mastery. Physical fitness often gives rise to higher self-esteem which in turn promotes self-actualisation which may lead to more conducive mental models. Physical strength and stamina may also improve the personnel's sense of manageability. Thus, it seems reasonable for companies to offer ample possibilities for physical exercise for their employees. In addition, mental techniques such as meditation could have a more direct effect on the employees' sense of coherence.

Many organisations also offer lectures. In the best of worlds, they could influence the mental models of the staff. More interactive seminars may be even better to develop a shared vision and instigate team learning which could increase comprehensibility and meaningfulness.

In some organisations, the role of leaders as role models was emphasised. This is also a major tenet of the theories of health promotion and should be encouraged.

### **Information search**

Making efforts to find health activities based on the employees needs and wants, as many of the organisations do, seems reasonable and could probably increase their meaningfulness. Using surveys is one possibility. Nevertheless, better results could result from physical meetings in the form of seminars and group talks as well as making this a standing part of regular individual development talks. By discussing health issues together the organisation might be able to move in the direction of a shared vision based on team learning.

### **Procurement process and organisation**

While specific units may be needed for the actual handling of the health service procurement, it is important that they are seen as a strategic issue as a part of an organisation-wide health promotive approach led by top management. Furthermore, involving all the employees as much as possible should be useful. Appointing health coaches is most likely a useful method in this regard. Regarding the public organisations, they obviously have to follow the rules for public procurement. Nevertheless, they should take a long-range perspective based on a health promotive view rather than being too focused on short-term costs.

### **Relationships**

In fact, as organisational learning has developed, the term learning networks is ever more often used. All organisations, and especially those that are smaller, are entangled in a web of relationships. Transforming this network into a learning network brings possibilities for long-term success. Possibly, a health promotive approach could turn the company and its relationships into a network of healthy organisations with healthy employees.

## **Empowerment and participation**

Although, health promotion should be an overall priority for top management, lower level managers and even individual employees should feel that they have the authority to make health promotive choices. This will increase the meaningfulness of the health services from their perspective which will make it more natural to participate.

## **Evaluation**

While it may be important to measure the effects of health service purchases, it was found that this involves many difficulties. The experience of the personnel is most important. Have they developed a higher sense of coherence? There is a specific questionnaire that has been developed by Antonovsky(1987) that could be used to measure this but it may be difficult to relate changes to specific health initiatives. In addition, open discussions in which all staff participate could provide deeper understanding as well as constituting an organisational learning process in itself.

## **Systems thinking**

The above points have illustrated certain specific issues of importance. Nevertheless, if we are to follow the theories of organisational learning, systems thinking should form the basis. That means that health service procurement should not be seen as a solitary process in isolation. Instead, it should be viewed in the context of a holistic health promotion strategy for the organisation as a whole.

## **Conclusions**

As we connected the findings from the study to the theories of organisational learning and health promotion, we found several points of interest that have been presented above. The major points seem to be a commitment and focus from top management coupled with empowerment and participation of the employees. In this way, managers and employees should be able to work together to form and implement an organisation-wide health promotion strategy which could set the context for health service procurement. Under those circumstances the procurement process could itself become an organisational learning process which could increase the sense of coherence and thus the health of all members of the organisation.

## **References**

Antonovsky, A. (1987). *Unraveling the mystery of health : how people manage stress and stay well*. San Fransisco, Jossey-Bass.

Argyris, C. (1993). *Knowledge for Action, A Guide to Overcoming Barriers to Organizational Change*. San Francisco, Jossey-Bass Publishers.

Argyris, C. and Schön, D. A. (1996). *Organizational Learning II, Theory, Method, and Practice*. Reading, Addison-Wesley Publishing Company.



- Daubas-Letourneux, V. and Thébaud-Mony, A. (2003). *Working organisation and health at work in the European Union*. Luxemburg, European Foundation for the Improvement of Living and Working Conditions.
- Ford, D., Gadde, L.-E., Håkansson, H., Lundgren, A., Snehota, I., Turnbull, P. and Wilson, D. (1998). *Managing Business Relationships*. Chichester, Wiley.
- Glaser, B. G. (1992). *Basics of Grounded Theory Analysis*. Mill Valley, Ca., Sociology Press.
- Glaser, B. G. and Strauss, A. L. (1967). *The Discovery of Grounded Theory, Strategies for Qualitative Research*. Chicago Il., Aldine Publishing Company.
- Goleman, D., Boyatzis, R. and McKee, A. (2002). *Primal Leadership, Realizing the Power of Emotional Intelligence*. Boston, Harvard Business School Press.
- Grewal, D. and Salovey, P. (2005). "Feeling Smart: The Science of Emotional Intelligence." *American Scientist* Vol. 93 No.: pp. 330-339.
- Gummesson, E. (1999). *Total Relationship Marketing*. London, Butterworth-Heinemann.
- Nordfält, J. (2010). "Learning and memory".In *Consumer behaviour - a Nordic perspective*. Ekström, K. M. Lund, Studentlitteratur.
- Patton, M. Q. (1990). *Qualitative Evaluation Methods*. Newbury Park Ca., Sage Publications.
- Schneider, B., Brief, A. P. and Guzzo, R. A. (1996). "Creating a climate and culture for sustainable organizational change." *Organisational Dynamics* Vol. 24 No. 4: pp. 7-19.
- Senge, P. M. (2006). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York, Currency Doubleday.
- Senge, P. M., Scharmer, C. O., Jaworski, J. and Flowers, B. S. (2005). *Presence, Exploring Profound Change in People, Organizations and Society*. London, Nicholas Brealey Publishing.
- Solomon, M. R. (2004). *Consumer Behavior, buying, having and being*. Upper Saddle River, NJ, Prentice Hall Inc.
- Strauss, A. L. and Corbin, J. (1990). *Basics of Qualitative Research, Grounded Theory Procedures and Techniques*. Newbury Park Ca., Sage publications.
- van Weele, A. J. (2010). *Purchasing and supply chain management*. Andover, Cengage Learning EMEA.
- Winroth, J. and Rydqvist, L.-G. (2008). *Hälsa & hälsopromotion - med fokus på individ-, grupp- och organisationsnivå*. Stockholm, SISU Idrottsböcker.
- Yin, R. K. (1994). *Case Study Research, Design and Methods*. Newbury Park, Sage Publications.



# EDUCATIONAL VALUE IN DISTANCE AND IN CAMPUS EDUCATION SEEN FROM A STAKEHOLDER PERSPECTIVE – THE CASE OF SWEDEN

Mia Ljungblom, Gotland University, [mia.ljungblom@hgo.se](mailto:mia.ljungblom@hgo.se)  
Raine Isaksson, Gotland University, [raine.isaksson@hgo.se](mailto:raine.isaksson@hgo.se)

## **Abstract**

The popularity of distance education is on the rise in many countries, but distance education is also subjected to severe criticism. In Sweden, distance education has grown considerably during the last decade and about a fifth of all students are now studying on distance. In Sweden distance courses have been criticized for a lower throughput compared to campus courses and for lower productivity, which could be seen both as inferior quality and ineffective use of funds. In Quality Management what constitutes quality is decided by the customers. It could be discussed who the customers in the educational systems are – students, employers, state and others? Only when we have identified the customers and their needs can we compare how these are satisfied with campus education and distance education and form an opinion of the quality levels. With a broad customer definition we approach the idea of value for stakeholders, which would additionally include at least the management, the lecturers, the local community and the environment. Results indicate that what constitutes quality in education is not well defined. There is no indication of distance education having a lower quality, but rather the contrary, when using common quality definitions. An apparent area of improving the educational system in Sweden is defining and measuring quality better.

## **Keywords**

Action research; Campus; Distance; Quality Management Education; Educational Quality.

## **Introduction**

Distance education is gathering popularity in many countries and Sweden is no exception. According to latest figures 22% of the total number of students is studying on distance. From 1999-2009 the number of distance students grew with 400% in Sweden (HSV Rapport, 2011). However, many distance students only study part time and when translated to full year student equivalents the figure is 14% out of the total. Still, distance studies start to be an option which needs to be considered. For students working full or part time distance studies offer a convenient option. In Sweden, distance education has grown considerably during the last decade and about a fifth of all students are now studying on distance. In Sweden distance courses have been criticized for a lower throughput compared to campus courses and for lower productivity, which could be seen both as inferior quality and ineffective use of funds. (HSV Rapport, 2011; RiR, 2011).

Universities in Sweden are mainly financed by the government and funding will in the future depend more and more on the university quality performance. In Quality Management what constitutes quality is decided by the customers. However, the quality definitions used in the Swedish educational system do not seem to be very clear. Starting from 2011 the university educational quality will be measured based on the quality of theses written.

Generally distance courses have a lower throughput, which means that a university with a high proportion of distance courses will be having a lower average. This affects many of the

ranking tools used. A common interpretation in universities seems to be that more focus and developmental resources should be put into promoting campus education. In for example Gotland University funds from distance courses are transferred to campus courses. This could be in conflict with the increasing demand from mature students needing an update of their knowledge (Ljungblom & Isaksson, 2008). Mature students seldom have the chance to attend campus education due to day time lectures and distant location of university. For the lifelong learning, being one of the objectives for the Swedish government, distance courses play an important role (HSV Rapport, 2011).

Local communities prefer campus students since the traditional campus student is still seen as the most valuable one for the local economy in boosting the population number and increasing consumption. However, students of today come in all ages and with different needs. There is a risk that personal experiences and views held by politicians and decision makers and local interests affect decisions on whether to provide courses on campus or distance. Using educational resources in the best way is in the interest of everybody. An objective way of comparatively studying quality in campus and distance education could be to look at value produced for all stakeholders in the educational supply network.

The overall purpose of this paper is to compare value adding for different stakeholders in the educational network for campus education and for distance education and to suggest suitable indicators. We also want to argue for that the use of the customer and quality concepts as defined in Total Quality Management will help in identifying relevant performance indicators and in assessing quality correctly.

### ***What is quality?***

There are many definitions for quality. We use one from Bergman and Klefsjö (2010) who define quality as:

“The Quality of a product is its ability to satisfy, or preferably exceed, the needs and expectations of the customers.” (Bergman & Klefsjö, 2010:23).

Quality can also, according to Garvin (Bergman & Klefsjö, 2010:25), be defined in five perspectives, which are the transcendent, the product-based, the manufacturing based, the user-based and the value-based. The user-based is the one closest to the definition above by Bergman and Klefsjö (2010). In the value based perspective quality is defined in relation to cost and price. The product-based view holds that to what extent there is quality is exactly measurable. This view claims some objectivity which cannot be judged by the customer. A product is defined as any combination of goods and services and could thus be an educational product. The customer is defined as:

“The people or organizations that are the reason for our activities”, i.e. “those for whom we want to create value” (Bergman & Klefsjö, 2010:27).

The customer definition of Bergman and Klefsjö (2010) is very broad and is bordering to what other authors define as stakeholders, which are those affecting or being affected by the activities of the organisation. It can be argued that universities have several customers, these being such as the student, the future employer, the state, the parents of and the family of the student etc. Using the Bergman and Klefsjö (2010) definition on customers we could even argue that management, lecturers, the local community, future generations and the environment are customers since the educational processes provide indirect value for them.

Especially in a situation like in Sweden where most of the funding comes from the state it would seem logical to focus on how to maximise value in the educational supply network, while minimising use of resources. However, since the term customer is not always well understood in the university world we use the term stakeholder. For us stakeholders are all those being affected by the educational processes and all those affecting the educational processes.

With scarce resources for providing adequate education and with different funding for different types of courses the value based perspective could be suitable to assess educational performance for different stakeholders in connection with the user based perspective where quality is assessed by the customer. Isaksson and Steimle (2009) propose the value per harm concept in the context of sustainable development with the idea being that in any system the best level is when the ratio stakeholder value per stakeholder harm is maximised. Additional conditions are that none of the stakeholders are subjected to unacceptable harm. This model relates to the value based perspective above and it should be possible to use value per harm for customers in the educational supply network as one criterion for performance.

### ***Methodology***

The research is mainly based on a case study of Gotland University. The choice of Gotland University is based on convenience and access to data. Since the actual level of performance is not in focus but instead the relative performance of campus and distance, we believe that a random choice of a university is acceptable. Additionally official reports and the web-site for the Swedish National Agency for Higher Education (HSV) have been studied. University education is studied as a process starting with students that have been accepted to higher education and that ends with students having had some working experience using the education that they have received. We study four different types of educational processes, which are individual courses on campus and distance and graduate programs on campus and distance. This separation is needed because the type of students differs considerably. Students doing programs on campus are mostly young persons, studying for their first exam. Students doing individual courses on distance are mostly mature students with an employment. In these educational processes we identify the main customers and main customer needs in order to propose a set of suitable performance indicators that can be used to compare campus and distance education. Based on course evaluations, we can compare the student perception of campus courses compared to distance courses. We also use two specific studies of distance course students to highlight educational relevance and value. We create indicators that are based on main customer value such as university credits, exams, student course evaluation level, throughput, economic performance etc. We also look at main harm indicators such as cost and time of studies, carbon emissions and resources used. This enables us to propose indicators based on value-based quality and the concept of value per harm.

### ***The development of distance education in Sweden and in Gotland University***

In the year of 2010 there were totally 6 831 students (corresponding to 2 458 full time students) registered at Gotland University in courses and programs. The evolution of the number of students is presented in Table I and the distribution based on full time students on campus and distance is presented in Table II.

**Table I. Number of registered full time students 2005-2010, adapted from Lahne (2010).**

<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Number	2335	2145	2213	2396	2550	2458

**Table II. Number of registered full time students in different types of education, 2010**

Form of education	Campus	Distance	Total
Program	643	136	779
Courses	161	1518	1679
Total	804	1654	2458

Results in Table II show that most of the programs are on campus and that most of the individual courses are on distance. Based on a review we did in 2009 on some randomly chosen leadership courses we found that 92% were mature students and that most of them had an education and 82% were working. From our daily work we can note that there seems to be no changes to this. Based on the 2009 Swedish figures more than 60% of those only doing distance studies are above 30 years and only 4% are under 21 years (HSV Rapport, 2011). It seems that most of the campus students are relatively young and that they are doing their first education. This means that from a process performance perspective the input is different in campus and distance education and that comparing results without taking this into consideration might lead to wrong conclusions. In Table III there is a description of the development of registered students on campus and distance in Gotland University.

**Table III. Number of registered students on campus and distance in Gotland University calculated as full time students, adapted from Lahne (2010).**

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Campus	1023	1187	1424	1359	1307	1190	1084	892	807	804
% Campus	89.7	83.3	75.3	64.6	56.1	55.0	49.2	37.3	31.6	32.7
Distance	117	238	468	745	1021	974	1120	1502	1746	1654
% Distance	10.3	16.7	24.7	35.4	43.9	45.0	50.8	62.7	68.4	67.3
Total	1140	1425	1892	2104	2328	2164	2204	2394	2553	2458

The results in Table III show that the number of campus students has dropped with some 20% over that last ten years and that the number of distance students has increased about 1300%. In the same time the total has increased. The percentage of distance students has gone from 10.3% to 67.3%. This supports the general observation of increasing interest in distance education. The increase is much higher than the average increase in Sweden. The simple explanation is that it has been easier to increase the distance education while it has been difficult to find students for campus. For many topics it has been a way of survival to change from campus to distance. One of the reasons for the increasing difficulty to recruit campus students to Gotland University could be its location on an island in the Baltic Sea. The local uptake when basing it on an average of 45% of every year group starting studies corresponds to about 350 potential students from Gotland. With three year candidate programs as the most common ones there should be about 1000 campus students if Gotland University campus is as attractive as the average in Sweden. The actual number as seen in Table III is a little bit lower. For Gotland University to maintain its 2500 full year students it will continue to rely on distance students. Having distance students makes it possible to find niches for topics like Programming and Quality Management where the interest among mature students is considerable. Starting 2002 there was special support from the "Net University" with extra funding for distance courses by the state. The Gotland University management of the time was actively promoting the idea which helped to quickly increase the part of distance education. The support was later withdrawn. The Net University changed name and direction in 2006 and was terminated in 2008 (Mattsson, 2007). The impression is that Swedish government support to distance education has gone from very supportive to slightly negative.

A reflection of this is that the current Gotland University management is internally redistributing funds from distance to campus education.

### ***Stakeholders and stakeholder needs analysis***

Here we identify stakeholders in the educational supply network and then choose the most important ones for further analyses. We also discuss possible indicators to measure user-based quality, product-based quality and value based quality for main stakeholders.

Students are seemingly the most important stakeholders. In Sweden young people will decide on what to study without much influence from parents. The impression is that in comparison with many other countries there is more focus on the general interest of the topic than on the chances of getting a job later. For universities this means that marketing for campus programs quite often focuses on how fun it is being a student in that particular university. Those educations leading to status educations such as Physicians, Lawyers and to some extent Engineers are popular. Here, students are seemingly more guided by the future employment prospects and the status it brings. Information on employability and salary is quite often scarce. Gotland University does not systematically provide any such information. There is no requirement from the state to provide any such information. The state that finances most of the education has during the last years started to focus more on the economic results. The Swedish National Agency for Higher Education (HSV) defines requirements and can be considered an important stakeholder. HSV also carries out inspections and decides on examination rights and is therefore followed much more closely by the university management than employer requirements. University management is the one giving directives to lecturers and the one that controls performance and could therefore be identified as an important stakeholder in the educational process.

Lecturers, parents and the local community also have an interest in the university and especially the municipality on Gotland has been active in discussing the type of education given by Gotland University. However, to simplify our analysis we have chosen students, employers, HSV and university management as the stakeholders to be studied. We believe that we with the stakeholders identified can define what constitutes quality for them and then use this assessment to compare quality of campus and distance education.

### **Students**

For students the value-based quality definition exemplified with the value per harm concept could be defined as employability per student resources used. The main value is to get competence, which is measured with the number of European Credits (ECTS) and an exam. The main harm is time and money spent for acquiring the exam and competence. The employability value of the exam is related to the content and to the brand of the university issuing the exam. In Sweden the university branding does not seem to be that important as a factor for employability where as the content is. What constitutes value probably differs between student categories. For mature distance students with a previous degree the acquired competence is probably more in focus compared to the ECTS earned. It is occasionally claimed that in some topics there are students studying for interest and not bothering to do the exam. This is mentioned as one possible explanation for a lower throughput (HSV Rapport, 2011). Examples of where the competence acquired is the main value can be exemplified with Gotland University courses in Quality Management where students carry out improvement work in their organisations. In some occasions the work done has lead to promotions. An education that directly leads to competence increase and organisational improvement should be of interest for all stakeholders and especially the state. The problem is that competence

acquired is much more difficult to measure than ECTS. This could be an example of what Deming (1994) says about the risk of numerical goals and “Management By Objectives” where the system understanding is lost leading to sub-optimisation. The current focus on throughput and therefore campus could mean reduced opportunities for distance education and therefore less support to an effective form of lifelong learning.

Competence should be provided with good pedagogy making studying pleasant. In spite of that many students start studies for genuine interest in the topic, the tendency is that most students want to minimise their use of time. For campus students the cost of living and time for travel during study time are typical harm parameters. For environment and society the carbon emissions from travelling are an important harm component.

In Sweden it is obligatory to carry out course evaluations and to publish these results for students. Course evaluations only measure the student perceived quality and do not measure if the right things were taught. If something is missing the student would have difficulties knowing it and things missing might only be discovered when starting working life. However, course evaluation results can be used to assess the user-based quality of the course.

It could be discussed who is responsible for that the content of the education is relevant. If course and education are described well it could be seen that the student should be in the position to decide if the education is relevant. On the other hand especially students going for their first education have to rely on universities providing relevant education that leads to jobs. An important quality parameter is to what extent the education is relevant. Collectively this could be measured as those being employed within their area of education. For this there is only scarce information available from Gotland University, which we do not review here.

Quality for students could be measured as:

- course evaluation results –user based quality
- course evaluation results compared to student time used – value based
- percentage that gets jobs after education (programs) – user based quality
- European Credits (ECTS) for time used – value based
- ECTS per all costs included – value based
- ECTS per carbon emissions – value based
- How relevant the education is for the student – user based

For course evaluation results we have compared results from the Gotland University EVASYS system for campus and distance for the academic year 09/10. Results show a slightly higher average of 3.3 for distance compared to 3.0 for campus (Likert-scale of 1-4 with 4 as highest). The difference is small and we still need to confirm if this is statistically significant. The interpretation is that there is no indication of students perceiving that they get a better education on campus.

We compare the results above to the time students have used as based on their feedback in an extended course evaluation. Here, we only have a limited number of course evaluations and results should mainly be seen as example of how follow up could be done. For time used per ECTS we have a few results from some course evaluations which indicate that the distance student uses less time than the campus student to study with the summarised results being 7.1 hours for distance and 9.2 hours for the campus course. The courses are 7.5 ECTS and are given at half time. Both results indicate that students use much less than the 20 hours expected. The result indicates that the distance students get more ECTS/h or 1.1 ECTS/week-



hour compared to 0.8 for campus students. Seen from the product-based quality view the difference could indicate an inferior quality for distance courses compared to campus courses since there should be a correlation between time used and things learnt.

We have not looked at employability and neither have we looked at the ECTS compared to use of resources. We only carry out some reasoning to describe different study situations. It is likely that a course done on distance from a home computer has negligible additional costs. Also the carbon footprint will be much lower due to the fact that no travel is required. Costs for attending a campus course will vary considerably depending on if the university is in the vicinity or if the student has to move and even has to get a second apartment. In Table IV an indicative assessment by the authors for costs in for different student groups and different types of education.

**Table IV. Time and costs for different types of education and different types of students**

<b>Education type</b>	<b>Typical student</b>	<b>Costs</b>	<b>Time</b>	<b>Comments</b>
Campus-program	Young – first education	Living expenses at place of study. Normally low cost for transports.	Time for transport from living quarters to campus – 10h/week	Ordinary living expenses – seldom double costs.
Campus-program	Mature – has been working – first education	Living costs at place of study in addition to ordinary costs. Alternative cost for lost working time and for transport to home destination.	10h/week + transport to home location of about 10 h/week	Could be double costs and high alternative costs because of lost income.
Campus-course	Mixed	Transport to campus for lectures – varying costs. Assumption is an average of 15 Euro per lecture which results in 150 EURO for 10 lectures	Time for transport varies and could be long – assessed as 2h/lecture with 10 lectures = 20h for 7.5 for 7.5 ECTS	Increased costs for 10 visits per 7.5 ECTS
Distance-program	Mixed	No extra costs No extra carbon footprint	No extra time	
Distance-course	Mature – competence development	No extra costs No extra carbon footprint	No extra time	

The qualitative and semi-quantitative estimates in Table IV indicate that campus programs are an attractive choice for young students without a job. Cost increase is negligible and the extra time used for transport being about 400 hours has a low alternative cost. With no university tutoring fees in Sweden and study loans covering livings costs starting on campus for young students is economically feasible. For mature students having a job and needing a new education the campus alternative could be very expensive with double housing. Additional costs of at least 500 Euro per month would be likely. For ten months of studies this adds up to

5000 Euro. Additionally the 800 h of time used for study year for transports would have an alternative cost as would the time for studying. An approximate estimate for the extra costs using 15 Euro/hour as alternative cost (Swedish average salary after taxes) and 40 weeks of 40 hours (including study time and travel time) results in an alternative cost of 24 000 Euros. With weekly visits to home location there would be 80 trips per study year to a varying cost. Using 30 Euro/trip as an estimate this amounts to 2400 Euro. To this should be added the increased carbon footprint because of travel. The distance program student has no extra costs and can minimize the alternative costs. Provided discipline the distance student can continue working and study part time, which means that the alternative costs is much lower, being the value of free time. This means that the actual cost per ECTS could be zero. The total cost for the mature student who needs to move to the place of study and who needs to take leave from work would thus be over 30 000 Euro per year or about 1.9 ECTS/1000 Euro plus a measurable carbon emission cost. The difference between distance and campus becomes extreme. This review goes some way to explain why young students choose campus and mature students chose distance.

How relevant studies are for a student becomes obvious when the acquired competence meets the working situation. We have used two empirical studies that highlight the relevance for distance courses. From a theoretical perspective individual courses, both campus and distance, could be seen to be much more of the Lean Management pull aspect where needs guide the choice of studies. The traditional program course with front loading of knowledge that is to be stored until used is more of the push aspect of Lean (Liker, 2009). The main question to be answered for the two studies was if what was learnt on distance could be applied in the practise of the student.

Gotland University has since 2002 a distance course called Quality Technology and Organisational Development and since 2003 distance courses in leadership. Ljungblom and Isaksson (2008) studied leadership courses with the purpose of looking at effectiveness and if theories and methodologies were put into use by the students. A survey focusing on students on quality technology courses was carried out in 2009 with the same purpose. The results from this study are similar to the ones from the leadership course survey indicating a high level of student satisfaction. However, the real test comes when theory is put into practise. The questions asked were if what was taught also was used and if it is was relevant. A summary from Ljungblom and Isaksson (2008):

- Have you learnt more about yourself? – yes 89.2%
- Have you learnt to co-operate better with others? – yes 68.8%
- Have you become more secure in your working role? – yes 73.4%

To answer the question “to what extent Gotland University’s current leadership teaching is transferred into practical use in organisations” the respondents were asked for how often they think and use the theories taught, see Table V.

**Table V: Thinking and using theories taught based on results from the questionnaire (Ljungblom and Isaksson, 2008).**

Course	Thinking about theories (%)	Using theories (%)
Individual and group based leadership	92.2	75.8
Leadership and Organisation	90.7	84.6

Results from interviews confirmed the impression that theories were being used. All 12 interviewees thought and used the theories. Several interviewees indicated that the frequency of use depended on the work situation. Similar results were found in the Quality Management courses. On the question of usefulness of theories the result was 7.8 on a 1-10 Likert scale with ten as highest. The range was from six to ten. Several of the students said that they have used the knowledge directly into their ordinary work situation – process and quality improvements, improvements in environment and cost saving. Especially with a topic such as Quality Management including leadership distance education provides a possibility of customisation which is more difficult to carry out in a campus education. The greater flexibility in time of distance education makes it easier for the student to apply the Lean principle of pull – studying what is needed when it is needed.

## **Employers**

Availability of persons with the right competence is important. Collectively this could be measured with how long it takes and what it costs to employ the competence needed. An indicator which is hard to measure is how the educational competence of those employed corresponds with the expectations of employers. One way of finding out this is to have focus groups with representatives from employers. We do not have access to any such information and only note that this would be important.

Competence could be hard to assess. It could be seen to contain both particular functional skills within the field in question and general skills of communication, co-operation and leadership. In the ideal case some type of employer satisfaction index for new recruitments would be used. For individual courses and mature students it is possible to ask them directly to what extent the education has been relevant and if they can use what they have learnt.

Quality for students could be measured as:

- Employer satisfaction per recruited person – user-based quality
- Quality of person recruited compared to cost of recruitment (could include costs for internal training required to complement basic education) – value based quality
- Easiness of recruiting required competence – user-based quality
- Easiness to recruit compared to initial salary required – value-based quality

We have not looked at the proposed indicators for Employer quality due to lack of data.

## **Swedish State & Swedish National Agency for Higher Education (HSV)**

The state has an interest in seeing that the money invested is used in the right way. One part of this is the throughput on courses. Universities receive funds based on the number and type of students. About half of these funds are paid when students start a course and the other half at completion. If throughput is low then it could be interpreted that money is wasted. The HSV also needs to assure that education is based on scientific basis and checks that the necessary structure and academic competence is available. This could be interpreted as a product-based quality view. The assumption is that with higher academic qualifications the education will be better. It is unclear if there is any scientific evidence to back up this assumption. It should be possible to correlate for example student satisfaction with the percentage of professor hours used for education. The state has an interest in seeing that education leads to tax payers but there are no particular requirements on measurements of employability. The employability as described above under employers could be used.

Quality performance could be expressed as:

- ECTS/costs (with lower throughput this figure becomes higher) – value based quality
- ECTS/lecturer hours – value based quality (could also be product based quality seen from the student perspective)
- Professor hours per ECTS –value based quality
- Number of jobs relating to education per ECTS produced (this could be seen as an indicator of the educational relevance) –value based quality

The productivity of Swedish university education has been highlighted in a report from the Swedish National Audit Office (RiR, 2011). In the report the total value produced in both education and research is compared to the total funding. The best ratio produced is used as a benchmark. Universities characterised as benchmarks score 1 and others lower. The average score for all the universities studied in the period 2004-2008 is 0.93. Out of the 31 universities reviewed Gotland University has the lowest score at 0.75 with a range from 0.48 to 0.90. The method of the assessment has been criticized by most universities (Hultsten, 2011). It has been impossible to correlate the productivity figure to the general level of the Gotland University performance, which indicates that the criticism of the indicator not being very good is relevant (Hultsten, 2011). This does not mean that there are no productivity problems, but only that the official measurement is not good. Unfortunately there is no internal measurement assessing the productivity in Gotland University. A low throughput on distance courses has been mentioned as a reason for reduced productivity. However, the question is how the situation looks like when we track down the hours actually used for the different types of courses. This could be done by comparing total ECTS to total costs, which is not done here or as ECTS to the total lecturer time which is presented for three topics.

Distance courses generally have a high percentage that never starts the education, students that deliver 0 ECTS. The national average in Sweden for 0 ECTS students on distance courses is 38% (HSV Rapport, 2011). The simple explanation is that it is very easy and free of cost to apply and accept a place on a course. The somewhat extravagant Swedish student rights prohibit universities to remove non active students unless they say so. Non active students do often not respond and remain therefore on the course becoming 0 ECTS students. Out of those students on distance that have completed 1 ECTS or more 76% finalised 80% of the course points (HSV Rapport, 2011). When the 0 ECTS students are removed the difference in throughput between distance and campus is considerably reduced. Starting a campus course requires physical presence which requires a certain effort and interest. Since the state pays about 50% of the remuneration to universities at the start of the education this means that there is a considerable sum of money coming in for distance courses for which little work has to be done. From a productivity point of view the interesting question is where this money goes. Is it used to subvention distance courses or is it used for some other purposes? The entire logic of distance courses being less productive falls on its face if the money instead is used for other purposes. For a preliminary check we have looked at the situation in Gotland University based on results from 2010. We have compared the ECTS produced in three topics, Program Development, Quality Management and Business Administration with the number of lecturer hours (Lahne, 2010). Business Administration has most of its courses on campus (85%) and the two other topics mainly on distance (95 and 91%). Business administration throughput on campus is 85%, the Quality Management throughput on distance is 41% and Program Development has 60%. The lecturer hours have been calculated based on personnel costs using 1700 hours for a full time lecturer. Hours used for research are not separated and all hours are counted as campus respectively as distance. Value per

harm is measured as ECTS produced per lecturer time. This results in the following indicative figures for ECTS/lecturer hour:

Quality Management 0.50 ECTS/h  
Business Administration 0.51 ECTS/h  
Program Development 0.56 ECTS/h

There seems to be no significant difference between the productivity of the different topics even if throughput is much lower on Quality Management. The remuneration from the state is much higher for technological ECTS than for social science ECTS with approximate figures being 170 Euro and 80 Euro per year student ECTS. This would indicate that more time should be used for technology students to provide them with the intended product-based value, which does not seem to be the case. While the technology students get less than what could be expected the economic contribution to the university is much higher from Quality Management and Program Development courses. There neither is an indication from the budgetary results above nor from the hour-quotas used for lecturers that distance education would get more hours per graduating student than campus students. On the contrary, for internal accounting remuneration is internally higher for campus students than for distance students in Gotland University in order to encourage the different topics to work more with campus. To the extent these results could be generalised it means that distance education is at least as productive as campus education and that the extra money received for all those signing up but not starting their education is used for other purposes. A detail which might only apply for Gotland University is that costs for class rooms are added as overhead on all courses including distance courses even if classrooms are not used. With costs for classrooms corresponding to some 5-10% of total educational costs the ECTS/lecturer hour should be higher for campus courses for them to have the same productivity. Since only one third of courses are on campus and two thirds of the cost for class rooms is financed by distance courses there is a considerable risk that campus courses in real terms have a negative contribution and would not be feasible without the contribution from distance courses. The conclusion is that there are no indications of distance courses being less productive, but rather the contrary.

## **Gotland University Management**

The university follows closely the requirements from HSV and currently focus is on throughput and on increasing the number of campus students. The reason for this is that the current government is interpreted of being in favour of campus education more than of distance education. There is also pressure from HSV to have an educational profile, which means that the education given should be to some extent unique. In the ideal case it should be something unique on campus like Wind Power Management, Archaeology, Building Conservation or Game Development, which are mentioned as the current profile areas of Gotland University. Employability for many of these profile areas has not been very good, but since there is considerable student interest this is taken as a justification to continue as before.

Quality performance could be expressed as:

- Percentage campus students – user based quality (management perception of what constitutes quality)
- Percentage of campus students within profile areas – user based quality (management perception of what constitutes quality)
- Economic contribution of courses as ECTS per lecturer hours used – value based quality (as for State & HSV)

The first indicator is followed up. Focus on this could be seen as a direct interpretation from the pressure felt from the state. However, this performance cannot be linked to student or employer quality. The second indicator is also monitored due to the pressure from the state to find a profile. It is unclear how this relates to student and employer quality. The third indicator is currently not actively monitored which it should be in order to focus on improved productivity.

### ***Quality and Academic Quality***

The common quality definition used is “the quality of a product is its ability to satisfy, or preferably exceed, the needs and expectations of the customers” (Bergman & Klefsjö, 2010:23). This could be seen as mainly a user based quality definition. We have not found any definition on quality when carrying out a search at the HSV page for “quality”, “quality definition” and “Academic Quality”. There is an extensive list with several hundred entries of how different expressions are defined, but nothing on quality. In the Swedish university world the expression Academic Quality is used. The main emphasis seems to be on having a high enough number of lecturers with high academic credentials such as professors and senior lecturers. It is the task of Swedish National Agency for Higher Education (HSV) to review the quality of higher education. This work includes:

- Evaluating subject areas (main fields of study) and study programmes
- Granting degree awarding powers (HSV Rapport, 2011)

HSV refers to European Guidelines that describe Quality Assurance (ENQA, 2009). It says that that university Institutions should have a policy and associated procedures for the assurance of the quality and standards of their programmes and exams. However, there are no details on who the customer is and how quality is defined. The strategy, policy and procedures should have a formal status and be publicly available. They should also include a role for students and other stakeholders (Julkaisupalvelut, 2005). Hultsten (2011) claims that there are many different views on quality, and that the current view from the ministry of Education as interpreted from the speech of the state secretary Peter Honeth April 6 in Gotland University is that value is seen as employability with focus on the export industry. The older objectives of broadening the student recruitment base, is being downplayed. Possibly there still is some interest for the objective of lifelong learning. The word Quality seems to be used by HSV in many occasions and for slightly different things without it having a well defined meaning. In spite of the limited review of how HSV deals with quality the impression is that educational authorities have not defined what is meant by quality and have not checked how research defines quality. Provided this observation is correct it means that universities have not access to clear and logical guidelines. Instead the task becomes to follow whatever is perceived as quality indicators such as the number of senior lecturer and professors and the quality of theses. The quality of theses could be criticised as a poor indicator for educational performance since it does not take into consideration the input. Highly ranked universities can select the best academic potential and thereby practically assure that theses also will be good even if the education would be mediocre. Additionally the measurement will be further obscured by measurement inaccuracy resulting from different evaluators and varying traditions of what is considered to be a good thesis. Seen from a quality management perspective the chosen indicator for educational quality is very poor product based indicator. Also, it only is applicable for program education and completely excludes the growing distance education

## Conclusions and Discussion

The initial research has not found any indication of that distance education would be inferior to campus. Results in Table VI indicate that when main stakeholders and their needs are identified and the satisfaction of these needs is compared for campus and distance that both types of educations have merits depending on the target group. For young students taking their first exam the campus option probably has merits but there is no indication of it being more productive or of a better quality than distance education. For mature students the distance education is much better in providing value for lower costs and lower resource use.

**Table VI: Summary of quality performance.**

Stakeholders	Key	Distance vs Campus	Advantage
Students	Course evaluation results	Comparison between all courses in Gotland University 2009-2010: 3.3 distance, 3.0 campus Scale 1-4 (max 4)	Distance, but small difference that needs to be checked for statistical significance
	Course evaluation results compared to time used	Comparison between 3 randomly selected course evaluations looking at hours used per week per ECTS in a five week course 1,1 distance, 0,8 campus	Distance, but only indicative due to small sample number
	Work done per ECTS (product-based value)	Distance 7.1 hours/week Campus 9.2 hours/week	Campus, but only indicative due to small sample number
	ECTS/carbon emissions	Based on Table IV	Distance
	Educational relevance	Only for chosen distance courses – found relevant and due to easier access should have higher value per use or resources	Distance, but only studied for individual courses
Employers	Employment/cost	Not analysed	
State & HSV	ECTS/costs	Based on reasoning done for Gotland University	Distance, but needs to be checked for several universities
	ECTS/teacher hours	Distance 0.53 ECTS/h based on two topics Campus 0.51 ECTS/h based on one topic	Distance, but needs to be looked into in more detail
Gotland University	Percentage campus students	Not relevant	
	Percentage of campus students within profile areas	Not relevant	

Results in Table VI indicate that there seem to be more advantages with distance than with campus when using the identified indicators. It has to be noted that important indicators from employers are missing.

Another important conclusion is that a thorough discussion on what quality in education is seems to be missing in Sweden. It would appear beneficial that generally accepted research within Quality Management was applied on university education. Quality Management principles are general and apply in every field including education. The commonly heard mention of Academic Quality as something different from generic quality resembles very much the common excuse of any field being so special that common principles would not apply. No definition has been found for Academic Quality and it is therefore impossible to compare how this would relate to generic quality definitions.

The results are only indicative and need to be backed up with more research. However, there seems to be strong indications that common quality principles such as customer focus and decisions based on facts have not been applied when judging the quality of distance education compared to campus education. Distance education is particularly important for the lifelong learning and penalising this based on opinions not backed up by facts is bad news for Sweden.

## References

- Bergman, B. & Klevsjö, B. (2010) *Quality from Customer Needs to Customer satisfaction*. Studentlitteratur, Lund.
- Deming, W.E. (1994). *The New Economics for Industry Government, Education*. Massachusetts Institute of Technology. Cambridge, USA.
- ENQA (2009). Standards and Guidelines for Quality Assurance in the European Higher Education Area. [http://www.enqa.eu/files/ESG\\_3edition%20\(2\).pdf](http://www.enqa.eu/files/ESG_3edition%20(2).pdf) – downloaded July 1, 2011.
- Gotland University, (2011) *The University in numbers*. Retrieved: 2011-06-25 from: <http://www.hgo.se/omhogskolan/79-hgo/572-hgo.html>
- HSV Rapport (2011). Kartläggning av distansverksamheten vid universitet och högskolor (In Swedish) – Rapport 2011:2 R, Retrieved 2011-06-19 from [www.hsv.se](http://www.hsv.se)
- HSV (Swedish National Agency for Higher Education) (2011). *Quality*. Retrieved: 2011-06-23 from: <http://hogskoleverket.se/kvalitet.4.539a949110f3d5914ec800056452.html>
- Julkaisupalvelut, P. (2005) *Standards and Guidelines for Quality Assurance in the European Higher Education Area* European Association for Quality Assurance in Higher Education, Helsinki, Finland.
- Isaksson, R. & Steimle, U. (2009). What does GRI-reporting tell us about corporate sustainability? *The TQM Journal*, 21(2), 168-181.
- Lahne, L-M. (2011) *Results, 2010*. Gotland University, Visby.
- Liker, J.K. (2009). *The Toyota Way – Lean for världsklass* (In Swedish). Liber.
- Ljungblom, M. & Isaksson, R. (2008). Teaching Leadership for Improvement – A Case Study in Distance Learning Effectiveness. *Proceedings of the 11<sup>th</sup> QMOD conference*, 20-22 August, Helsingborg, Sweden.
- Mattsson, A. (2007) *Flexible education in practice*. Retrieved 2011-06-23 from [http://gupea.ub.gu.se/bitstream/2077/19075/1/gupea\\_2077\\_19075\\_1.pdf](http://gupea.ub.gu.se/bitstream/2077/19075/1/gupea_2077_19075_1.pdf)
- RiR (2011). Använder lärosätena resurserna effektivt –effektivitet och produktivitet för universitet och högskolor (In Swedish). Riksr revisionsen, RiR 2011:2. Retrieved 2011-06-23 from [www.riksrevisionen.se](http://www.riksrevisionen.se)
- Hultsten, Å. (2011). Interview of Åke Hultsten – Quality coordinator, April 14, 2011.



# **SURVEYS AS AN INSTRUMENT FOR EVALUATING THE EDUCATIONAL PROCESS: AN EXPERIENCE IN THE TOURISM DEGREE OF THE UNIVERSITY OF ALICANTE.**

M. Lloret Llinares; R. Evangelio Llorca; M. J. Pastor Alfonso; J.R.Valero Escandell; R. Fuentes Pascual and M.P. Such Climent

Departments of Applied Economic Analysis, Regional Geographic Analysis and Physical Geography, Civil Law, Human Geography, Contemporary Humanities and Business Organisation.

*University of Alicante*

## **ABSTRACT**

Today, the concept of educational evaluation is much more complex than the simple assessment of student performance. In addition to this function, the process is also concerned with evaluating the quality of the educational system and the role of the teacher and has also become an inevitable element. Based on an in-depth analysis of their own practices, teaching staff are able to analyse the work they do, so as to identify strengths and weaknesses and act accordingly by establishing different types of innovative practices that generate improvements in the educational process with respect to subsequent years. In accordance with these premises and taking advantage of the implementation of the Tourism Degree at the University of Alicante, a group of lecturers from this institution conducted an analysis of their own teaching practices starting in the first few weeks of the beginning of the degree course. They created a series of varied surveys which the majority of their students responded to, they analysed the information gathered in these surveys and extracted a series of conclusions enabling them to coordinate more appropriately the theoretical and practical activities, the working pace of students and the teachers of the different subject areas. The objective is to generate an improvement in the training process and a more optimal achievement of the capacities that are hoped to be acquired.

Keywords: ESHE, Evaluation, Tourism Degree, Teaching guides, teaching network.

## **1. Introduction**

The implementation of the Tourism Degree at the University of Alicante in the academic year 2010-2011 involved the design of Teaching Guides for planning the subjects and specifying the teaching-learning processes. The teaching staff was required to implement new instruments for planning and developing the educational process as well as for evaluating the new programmes so as to respond to the uncertainty among faculty members generated by the new approach to higher education (Such et al., 2010).

At the University of Alicante, a group of lecturers of the first year of the Tourism Degree, the majority of whom have been involved for some time in the introduction of the new studies, decided to organise a teaching network in order to monitor the new training programme during the first year of its implementation. Although it is an independent work group, it is closely associated to the Degree Commissions, constituted by the Faculty of Philosophy and Arts in order to supervise the set up and initial monitoring of all the new degree courses run by the faculty, in accordance with the stipulations of the Internal Quality Assurance System (IQAS) of this university. The tasks carried out by this team of lecturers during the first semester of the academic year 2010-2011 included the evaluation of the educational process by way of a series of student surveys, which are the focus of this paper.

## 2. Objectives

This research study has been conducted in response to the process being carried out by Spanish universities in the implementation of new Degree courses so as to adapt to the new European Space of Higher Education (ESHE), which places emphasis on an educational model that is focused on the development of the competences that should be obtained by the student (González and Wagenaar, 2003: 36). This new paradigm has given rise to the reconsideration of the functions of students and lecturers, including the new focus on the assessment of competences which has transformed not only the work of the lecturer but also the conceptual framework of the teaching process. (Bautista et al., 2003; Zabalza, 2006; Cano García, 2008).

Within a framework of globalisation, based on information and communication technologies, which allow instant contact and an absolute virtual proximity yet also generate an excess of information making it difficult to discern between the essential and the superfluous, society is placing new demands on the educational process. This process should be capable of ensuring the job placement of graduates and their autonomous learning- given that education constitutes a permanent feature of their lives – or the acquisition of a series of values that facilitate their personal development<sup>1</sup>. In this context, the lecturers should help students to “learn to learn” or to take command of their own training process<sup>2</sup>. The teacher does not simply transmit knowledge, but is someone who fosters the development of capacities and acquisition of skills and dexterity which the student should achieve through autonomous learning. The lecturer, therefore, should be an agent of disseminating good practices and, most of all, should combine the use of new resources and methods that equip the student with the appropriate tools for an active and autonomous learning process. The lecturer is neither more nor less than the guide who orientates this whole process.

Many authors have highlighted these new roles that teaching staff must assume<sup>3</sup>, and the new training needs of faculty members<sup>4</sup>. The educational institutions do not conceal the inadequate training systems which sometimes generate a feeling of failure. Perhaps a more appropriate place to start would have been the training of trainers, preparing the teacher for this change in educational paradigm, which would have reduced the sentiment of failure and frustration of so many lecturers who have very limited resources available to them – such as the courses run by the Institute of Education Sciences<sup>5</sup> – and encounter numerous obstacles (such as timetables that are incompatible

---

<sup>1</sup> As explained by Fernández and Rodríguez (2005: 48-49), this transformation is understood within the context of the so-called knowledge society, conceived as “an environment in which individuals should be capable of managing, administering and directing their own process of acquiring knowledge”. See also Zabalza, 2006:51 and subsequent.

<sup>2</sup> See, for example the studies of Marquès Graells, 2000; Thomas & Gadbois, 2007; Azevedo et al., 2008.

<sup>3</sup> Including the following: Salvador Mata, 1994; Belando, 1999; Marquès Graells, 2000; Rué, 2004; Ruiz, 2005; Zabalza, 2006; Gutiérrez y Martín, 2008, Bautista, Gata and Mora, 2003; Cano García, 2008; De la Cruz, 2003; Michavila, 2005; and Fernández and Rodríguez, 2005.

<sup>4</sup> See, for example, Belando, 1999; Mayor, 2009 and Álvarez et al., and the monographic issues 34, 38 and 39 addressing this subject in the *Revista Electrónica Interuniversitaria de formación del profesorado (Inter-university Electronic Journal for teacher training)*. Also referring to this issue is the study *Adaptación de los planes de estudio al proceso de convergencia europea. Programa de Estudios y Análisis destinado a la mejora de la calidad de la Enseñanza y de la actividad del Profesorado Universitario. (Adapting study plans to the European convergence process. Study Programme and Analysis for improving the quality of Teaching and the activity of University Faculty Members)*.

<sup>5</sup> The Institutes of Educational Sciences (ICE) have the objective of supporting teaching, offering training, support and advice to university teaching staff. In the case of the University of Alicante, among other

with their teaching activities and other obligations). In the case of the Strategic Plan of the University of Alicante, a Training Strategic Plan has been designed aimed at providing the teaching staff with the appropriate training so they may develop active teaching methodologies, facilitating their commitment to the implementation of innovative processes in university teaching<sup>6</sup>.

Moreover, the evaluation of teaching does not only affect the personal and professional domain of the lecturers involved, but also the evaluation of the qualification itself, which should be certified within six years of its implementation. Therefore, the opinion of the students is essential. This opinion can be obtained through some type of direct consultation in order to ascertain how students evaluate the subjects and their level of satisfaction with respect to the new approach to university teaching, which has emerged as a result of the incorporation into the ESHE and the ensuing methodological changes<sup>7</sup>.

The use of this type of survey is particularly valuable in three aspects. Firstly, it collects objective information regarding the level of receptiveness of students towards the new approaches to the subjects developed in accordance with the ECTS (*Exchange Credit Transfer System*). Also, it is useful in determining the extent to which the teaching guides facilitate the development of teaching in all its dimensions – objectives, contents, learning plan, teaching methodology, characteristics of the practical exercises, instruments and types of assessment. With respect to the interest of these elements of judgement, it should not be forgotten that the final evaluation of teaching does not exclusively depend on the greater or lesser competence of the faculty member responsible for its development, but should also assess the planning behind it, which is represented in teaching guides which were designed in order to implement the new courses<sup>8</sup>. Secondly, the use of surveys enables the lecturers to reflex on their own practices and the approved teaching guides, so they may improve both planning and implementation in a coordinated way, while facilitating the generation of self-assessment reports in accordance with the new teaching evaluation system. Finally, using surveys facilitates the formulation of new strategies and work methods aimed at reinforcing the learning process of students.

---

functions it organises the teacher training programme for the teaching and research staff (TRS) through the continuous Training Plan and the training programmes offered by the ICE.

<sup>6</sup> In particular, a strategic objective is to create a workforce of TRS and ASS (administration and service staff) who are appropriately trained in accordance with the ESHE, which, with regard to the first group, seeks to:

- 1.1. Improve the training in competence-based teaching methods.
- 1.2. Prepare the TRS in the use of ICTs.
- 1.3. Increase the proportion of TRS who speak several foreign languages and Valencian.

<sup>7</sup> Although some lecturers already incorporate this practice individually in their teaching activities, the interest in learning how students evaluate the subjects has given rise to proposing its use as an instrument to evaluate teaching. To this respect, see the study of Professor Juan Ruiz Carrascosa (2000) which is listed in the bibliography. Furthermore, the author indicates the need to analyse the extent to which factors such as the specific objectives of the programmes, teaching methods, type of student assessment and type of learning process influence the results in terms of knowledge and attitudes.

<sup>8</sup> As stated by González and Grande (1999: 62) when referring to Spain's National Plan for Evaluating Universities, teaching does not only depend on the lecturer, but on a series of active and passive agents that condition teaching processes. So, for example, they allude to factors such as the institutional context, the framework designed by the Study Plan, the limits established by the academic organisation of each year, personnel and material resources and the available facilities, the teaching programmes and methods used in teaching and assessing the subjects, the profile of entry and the attitude of students. Also, Muñoz et al., 2002 have conducted their most recent study along the same lines, although from a different perspective.

### **3. Methodology**

This study has been conducted by a group of lecturers who formed a teaching network in the University of Alicante in the academic year 2007-2008, which, since then, has coordinated its activities in order to create teaching guides for the Diploma in Tourism, firstly with a preliminary trial and subsequently with the design of guides corresponding to the subjects of the first year of the Tourism Degree. Now, the teaching network is working on the monitoring of these latter guides – and the development of the subjects – in the first period of implementing the new programmes, comparing the educational practice designed in these guides with that which is developed in the classrooms and in other areas of the training process and analysing aspects such as the competences to be developed or the content to be taught.

This study falls within this context and its objective consists in evaluating the teaching-learning process developed during the first four months after the implementation of the new Tourism Degree, based on evaluations carried out by the students through a series of surveys and questionnaires. It seeks to assess the application of teaching guides using a double evaluation: that of the students, based on their own responses, and that of the teaching staff involved through an analysis of the results obtained and a reflection of the causes and motivations of the student responses. Six lecturers from the different departments and faculties involved in the teaching process took part in the project, together with two student representatives in addition to the student group who responded to the surveys.

As well as the teaching guides which, given the objective of the study, inevitably formed part of the research materials, the analysis was fundamentally based on two survey models which were specifically designed for the project. The first, which we could call a global or general survey, was designed to discover the opinion about the work undertaken in the subjects taught in the first four-month term of the Tourism Degree. The second model, however, was specific for each of the four subjects taught by the lecturers that formed part of the teaching network, which in the first term are Fundamentals of Business Economics (FBE), Tourism Legislation (TL), Introduction to the Geography of Tourism (IGT) and Introduction to Economics (IE). It should be clarified that in both cases the 4 teaching groups were differentiated in accordance with the groups into which the students were distributed.

The first task of the work team was to design the surveys that would enable data to be collected. After reflecting on the difficulties of condensing the evaluation of the guides into one questionnaire, in order to achieve a more in-depth and complex analysis, it was decided to design the two different models mentioned above which are explained in more detail below:

1. A global survey, which gathers information regarding the evaluation of the students with respect to the teaching methodology, available resources, effort required and assessment methods and monitoring of their training activities; that is, how they perceive their first months of integration into their chosen university studies. This survey, which is shorter than each of the specific surveys, had ten sections: whether this course was the students' first choice or an alternative option; if they had read and how they had understood the different teaching guides; which projects or practical exercises they

preferred; their perception of the effort required in order to undertake the total workload, both in and out of class, in terms of projects and practical exercises of all the subjects in the first term; their opinion with respect to the available technical methods; the difficulty of the tasks assigned; their preferences regarding the individual or group assignments; the information resources used; the degree to which the evaluation system established in the guides is fulfilled; and finally, their opinion with respect to the usefulness of surveys as a tool to improve the training process.

2. The second model included the surveys that individually evaluated the different subjects that form part of the study: teaching methodology, learning plan, usefulness, the volume and difficulty of the planned work outside of class hours and the way in which the results were assessed. Although the surveys differed slightly in order to adapt them to the individual characteristics of each subject (the in depth analysis of the specific activities and practical exercises in each case), they were basically made up of eleven questions to gather information about the student's perception of the volume of work required in each case; the appropriateness of the activity in the classroom for the level of the group of students; the degree of coordination and correspondence between the theoretical explanation and the practical exercises and projects assigned; the estimated time invested in the activities outside the classroom; the assessment system; the usefulness of each subject and the overall evaluation of the subject.

In both models, a combination of open, closed (dichotomous and multiple choice responses) and mixed questions was used.

After several meetings and drafts the design phase of the surveys was completed. Subsequently, the problem arose regarding the ideal moment for collecting the student responses, given that the teaching period of the first four-month term had practically finished while the design process was being carried out. At first it was decided to conduct the student surveys through the Virtual Campus, although some groups were given the possibility of answering them at the end of the final exam, always taking the necessary precautions to respect their anonymity.

After the design and response phase a detailed analysis and the individualised and collective evaluation of the results were conducted, which are described in the following section.

## **4. Results**

In order to report the results of the surveys, we will divide them into three sections: the first (4.1.) refers to the overall evaluation of the students with respect to the application of all the teaching guides: the second (4.2.) includes the opinion of the students with respect to each individual subject; and the third (4.3.) refers to the specific analysis of the responses to the open questions.

### **4.1. Overall results**

The results reported in this section refer to the evaluations of the 180 students surveyed (86.7% of total number of enrolled students).

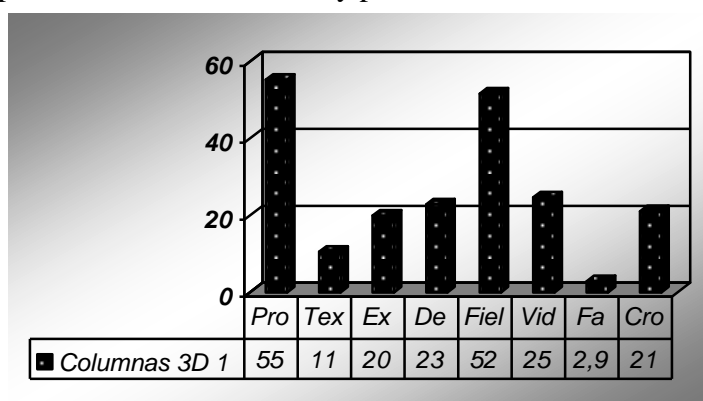
In order to assess the initial motivation of the students to study the degree, they were asked about the order of preference of Tourism studies in their choice of university

degree when formally enrolling on the course. Only 51.17% chose this degree as a first option, which indicates that a high percentage of students are not studying what they really preferred. This percentage is even lower, (45,8%) in the case of group 2 (taught in Valencian, that is the second official language of the region of Valencia), where the highest percentage of students indicated that this degree was their third or fourth choice (37.5%).

In this group, only an average of 55% of students had read the teaching guides. This average was only exceeded in the subjects of TL (69.4%) and FBE (59.4%). In the case of the subject IE and English for Tourism I in group 2 (Valencian), these percentages fall to 29% and 25% respectively.

With respect to the question referring to whether the students had understood what they had read, 71.7% claim that they did, although the percentage of students who acknowledge that this reading had been useful fell to 68% of those who had read this material. Similarly to the previous questions, the results of group 2 reveal slightly lower percentages.

The following table illustrates the preferences of students with respect to the type of practical exercises that they prefer.



As we can see, students prefer the traditional types of practical exercises That is, the resolution of practical problems and field work (55.3% and 51.7% of students prefer these activities respectively). The rest of the different types of practical work do not exceed 25%. All of the groups reveal a similar behavior except for group 2 where oral activities also have a high specific weight (45.8% of acceptance). This could be due to the fact that this group is smaller in size, and therefore the students are more used to participating.

With regard to the workload undertaken, 75.3% of the students consider it to be high or excessive, while only 1% believes that it is low. The percentage of students who consider that it is appropriate is around 23.5%. These average percentages are significantly different in group 1 where 88.4% believe that the volume of work is high or excessive.

Insofar as the difficulties encountered, it appears that they are not derived from the availability of technical resources as 84.1% acknowledge that the availability of technical resources is good or optimum. In particular, the most relevant difficulties found when carrying out the practical work refer to the excessive length of projects (39.4%), difficulties in understanding the questions raised (35.3%), difficulties encountered in teamwork (33.5%), the time period granted for carrying out the assignments (25.8%) or not knowing where to find the information to use in the projects (24.1%). Poor instructions given by the lecturer is only considered as a difficulty by 10.5% and the functioning of the

Virtual Campus by 9.4% although in the latter case the percentage increase to 16.6% and 18.3% in groups 2 and 4.

The difficulties derived from teamwork are revealed when the students are asked about the type of work they prefer: individual or teamwork. 57.6% confirmed that they preferred individual work, while 37% replied that they preferred teamwork.

With respect to the sources used for carrying out assignments, the results are, on the whole, in line with what was expected. So, the most used source with 92.9% is the Internet, followed by libraries at 67% and 44.6% using material provided by the lecturer. The rest of the sources are used less frequently and unequally by the groups.

With regard to whether the assessment system applied corresponds to what is established in the teaching guide, the results reveal that the subject FBE receives a positive appreciation with 77%, TL with 76.4%, IGT at 72.9%, IE at 65.3% and English for Tourism I at 61.7%. In some cases these average data may be reported in more detail. IE for example has a positive percentage of 75% in groups 1 and 4, while in groups 2 and 3 this percentage is just 38% and 57% respectively.

The last question of the questionnaire refers to the usefulness of this survey to improve the teaching-learning process. In this case, and despite the quantity of surveys that the students have had to answer throughout the term, 75.5% claim that it could contribute to an improvement. 20.4% believe otherwise.

## 4.2. Results by subject

1.- Usefulness of the practical work. The first question seeks to investigate the usefulness of the projects and practical exercises carried out during the four-month period. The following table shows the average of these scores for each question and the mode.

USEFULNESS	FBE	TL	IGT	IE
Helps in understanding theory	3.82(4)	3.89(4)	3.37(4)	3.39 (4)
Facilitates self-learning	3.61(4)	3.65(4)	3.39(3)	3.07 (3)
Helps to keep up to date with the subject	3.61(4)	3.62(4)	3.28(3)	4.56 (5)
Contributes to associating the material with real life	3.36(3)	3.87(4)	3.85(4)	2.79 (3)
Facilitates self-assessment	3.49(3)	3.37(4)	3.18(3)	3.09 (3)

For FBE, practical work has a high repercussion on the understanding of the theory, improving self-learning and keeping up to date with the subject. Lower evaluations are recorded for the usefulness with respect to the other two items. The scores given to the practical work in TL are all high (mode 4); while in the case of IGT student scores relating to self-learning, keeping up to date with the subject and facilitating self-assessment are average (mode 3). The case of IE is different as the survey could only be carried out among groups 3, 4 and 5 (54 students), obtaining very different results in the case of group 3 (below the average) or 4-5 (above the average).

2.- Difficulty of practical work. The results for this question varied greatly between one subject and another. In the subject FBE only two types of practical exercises were assigned: numerical problems and discussion. Both types of exercise have been evaluated as having a relatively high level of difficulty, with an average score 3.42 and 3.51

respectively, a mode for both types of exercise of 4 and high or very high percentages of difficulty of over 50%.

The subject TL incorporated four types of practical assignments, all given an average score in the evaluation of their difficulty. Practical case studies and questionnaires were considered to have an average difficult of 2.8 and a mode of 3. Debates and practical activities were evaluated with a mean of 3. None of the four types of assignment were evaluated as having a high or very high level of difficulty by more than 12% of the students surveyed.

The case of IGT is different due to the variety of different practical projects and because not all the groups carry out the same exercises. The average scores given to the subject with respect to the difficulty of the practical work can be seen in the following table:

TYPE OF PRACTICAL EXERCISE	Groups 1, 3 and 4	Group 2
General statistical sources	2.52	
Specific tourism statistical sources	2.6	
Virtual library	2.31	
Web 2.0	2.2	
Tourism and Town Planning	2.77	
Tourist route (team)	3.45	3.67
Statistical data	2.88	3.48
Tourism flows	2.54	
Cinema and tourism	3.1	2.52
Advertisements and tourism landscape	2.83	3
Benidorm Documentary	2.68	
Scientific journal articles	2.99	3.29
Report on the visit to Elche		2.86

Finally, a high average level of difficulty (3.8) was experienced in the practical exercises of IE.

3.- Volume of work outside the class. For the subject FBE we should highlight that 54-7% of the students surveyed considered that the volume of work outside the class was high or very high. Only 4.4% of the students considered that the workload was low or very low, while 40.5% perceived an average volume of work.

Similar percentages can be seen for the case of TL. 56.12% of students consider the volume of work outside of the class to be high or very high. 6.4% believe the volume of work to be low or very low, and 37.41% claimed that there was an average volume of work.



In the subject IGT, the percentages were 50.72% for a high or very high volume of work, 45.65% for an average level and 1.4% for a low amount.

With respect to IE, 35.38% of students consider that the volume of work was high or very high, 56.86% coincide in the opinion that there was an average volume and 7.8% believe that the volume of work outside the class was low.

4.-Level of the subject with respect to the class. In all cases, except for IE, the percentage of students who consider that the classes taught are appropriate to the level of the class is over 80%. In FBE the percentage is 86.5% of students surveyed, in TL 85.8%, in IGT 82.6% and in IE 68.5%.

5.-Theoretical-practical coordination. In this case, 87.1% believe that there was sufficient coordination between the theoretical and practical parts of the subject FBE. However, 12.3% consider that this coordination was lacking in some topics. When we analysed the explanation of this opinion, we found that in 100% of cases these opinions were based on those topics where the practical part was carried out before the theoretical part. This fact was due to the timetable of classes, not the coordination between the teaching staff, as this aspect is determined by the faculty, not the subject coordinator. In the case of TL, 92.9% of students thought that there was an appropriate level of coordination. In the subject IGT, however, those who expressed a positive opinion represented only 56.52%, although in group 2 this percentage was 90%. 66.6% of students gave a positive response in the case of IE.

6.- Fulfilling the learning plan. The most relevant observation of the results for this question is the high percentages of indifference expressed by the students. Although 60.1% of students with respect to FBE, 65.16% for TL, 66.6% for IGT and 61.1% for IE consider that the learning plan was fulfilled, and only 3.7% for FBE, 2.58% for TL, 7.97% for IGT and 9.25% for IE believe otherwise; 36.2% in FBE, 32.25% in TL, 25.35% in IGT and 29.62% in IE are indifferent to reading the learning plan.

7.- Evaluation of the estimated time invested in activities outside the class. As in the previous case, a cause for concern is the high percentage of students who are not aware of this information, as shown in the following table:

Opinion	FBE %	TL %	IGT %	IE %
Time similar to that estimated in plan	46	41.93	39.13	46.29
Time over-estimated in the plan	16.6	20.64	21.73	7.4
Time under-estimated in the plan	12.8	10.96	14.5	9.25
Unaware of the plan	24.4	26.45	24.63	35.18

8.- Evaluation of the assessment system. The majority of students believe that the assessment system is appropriate, as shown in the following table.

Opinion	FBE %	TL %	IGT %	IE %
Yes	90.2	80.64	84.05	83.1
NO	7.4	18.06	9.4	13.2
No answer	2.4	1.3	6.55	3.7

9.- Appreciation of what has been learned. In this case there is a high level of appreciation with 92.6% for FBE, 94.83% for TL, 94.92% for IGT and 87% for IE acknowledging what they had learned. Only 5% for FBE, 6.16% for TL, 1.4% for IGT and 7% for IE express an opposite view.

10.- Usefulness of the subject. The evaluation of this aspect is summarised in the following table.

USEFULNESS	FBE %	TL %	IGT %	IE %
Exercise for future profession	44.2	42.6	42	35.8
Personal development	37.4	51	58	38.8
Solution of real life problems	18.4	51.6	8	16.6
Continuing Tourism studies	54.6	53.6	56.5	38.8
Integration in the class	24.5	14.8	23.9	9.25

### 4.3. Qualitative analysis of open responses

The results of the free response questions included in the survey were analysed using the qualitative data analysis program ATLAS 6.1.1. in order to capture information regarding the individual experiences of each student. It was of particular interest to evaluate which subjective opinions could be incorporated into the analysis and therefore determine how to improve the strategy to follow in the future so as to increase the level of student interest in the subject and contribute to improving academic results. Furthermore, given the open nature of the responses, any additional opinion supplied by the students that could give a deeper insight into their experience and their degree of involvement with the educational technology represented a unique opportunity to enrich the conclusions.

In order to analyse the information provided by the students, the responses were coded in accordance with the knowledge that the teaching staff had regarding the experience of their students, based on conversations with them and comments made throughout the academic year. Furthermore, other categories were created depending on the type of responses that were generated by the students in the surveys.

A total of 13 categories were created, which in turn were aggregated into four large explanatory groups of the issue in question.

#### Coordination

Although the acceptance of the subjects by the degree students was on the whole high, some specific groups expressed their dissatisfaction with respect to the timing (theory much before practice) and from a conceptual point of view (theory not well related to practice). However, the specific nature of the responses were concentrated in one group for

one subject (IGT, group 1) which seems to indicate an isolated situation at a specific moment in time.

#### Assessment

In this aspect, the large majority of responses (91.87%) indicated that the students preferred the continual assessment method. Furthermore, the acceptance was completely generic for both the subjects and the groups. In fact, those responses that were not recorded as being clearly in favour of the system were either unrelated to the question or had an ambiguous meaning.

In any event, it would be important to ask the student if they prefer this assessment system because the probability of a final pass grade is higher or because they acquire a higher level of knowledge. It is evident that a continual assessment of the material allows us to evaluate the degree to which students have carried out the assigned task; however, it would be advisable to compare these results with those that would be obtained in objective assessment tests in order to determine whether they have really assimilated the knowledge. This aspect would be a possible area for a different research study in the future.

#### Opinion

In general, all of the students have identified positive and negative aspects in each subject, although in some it appears that a specific group was more critical.

With regard to the positive aspects, in the subject IGT, a liking for the practical exercises and field trips was particularly predominant among the students, whereas the way in which the subject was taught was most highly evaluated in the subjects of FBE, TL and IE. In TL the practical exercises were also a determining factor in the preference for the subject.

From the point of view of the negative aspects, the long classes and timetable problems were a major factor for TL and IGT, while the difficulty and density of the theoretical concepts were the main negative features of FBE and IE. Furthermore, Group 1 of IGT indicated that the coordination between the theoretical and practical classes was an important issue.

#### Proposal for change

The responses provided by the students were coded in relation to the characteristics of the subjects that could be modified in order to improve them. These changes were concerned with both the addition and the elimination of different aspects. Once again, in this case, although the responses differed in accordance with the subject and the group, in a broad sense, the recommendations were guided by common factors.

In all subjects, a reduction in material and complexity was highlighted as one of the objectives to be taken into account for future academic years. Furthermore, the obligatory nature of attending class was also widely indicated as an objective for all subjects.

Specific suggestions for the subject IGT included an increase in field trips and practical work, as well as rest times between classes. On the negative side, the students would prefer to reduce the number of assignments to submit to the lecturer and see an

increase in the level of coordination between the theoretical and practical classes of group 1. For IE, a significant percentage of students expressed the same idea.

Similarly, for TL (group 3) the students expressed their desire for more participative and appealing classes. The way in which the classes were taught (lectures) was not to the liking of the students.

As a general conclusion, it may be observed that the level of acceptance of the subjects by the students was high. Few objections were expressed with regard to the way in which the subject matter was taught or about how the subject programmes were structured and there were only significant problems relating to circumstances in which the teaching load had to be shared in individual cases (three groups: 1 in IGT, 3 in TL and 4 in IE). In particular, the division of the teaching load of theoretical and practical classes between different teachers leads to difficulties in coordination, which sometimes generates discontent among the students.

## **5. Conclusions**

The new study programmes in Spanish universities, - particularly prominent in the degrees that have replaced the former degree and diploma courses - will be subject to a series of evaluations that assess their suitability or, at least, their feasibility as training and learning processes. In order to successfully adapt the Tourism Degree at the University of Alicante to this evaluation with sufficient time, and to ensure the best development of change from its implementation, an evaluation process of the teaching activity was established during the first four-month term of the first year of the course based on the analysis of different surveys conducted among the students who gave their opinion to this respect. By examining the opinions of the students gathered from these surveys, strategies have been designed to try to solve implementation problems and to establish processes of improvement that will enable the objectives to be fulfilled correctly, improving the learning processes and helping to provide a professional practice that is more appropriate and committed to society.

One of the most noteworthy aspects of these follow-up surveys is how the students assume their participation in them as an instrument which will help to evaluate the learning process, aware that they are contributing, with their opinions, suggestions and complaints, to the improvement of many aspects for the students in subsequent years. That is, as the first students to study the new course, they also assume their role in the improvement of the training process in their own study programme. This attitude is of particular interest as we can observe that a high percentage of the students, over three quarters of them, have understood the importance of the evaluation as an essential part of the training process; and what's more, as future professionals, many of them have understood the advisability or need for evaluation for the follow-up of projects in which they may participate in the future.

With respect to specific conclusions regarding the different aspects studied in the surveys, a particularly disappointing finding is that a high percentage of the students have not read the teaching guides of the different subjects that they studied during the first term. Only 55.5% of students claimed that they had reviewed them, often simply skim-reading them at the beginning of the year, when the lecturers made their initial presentations and insisted on the importance of reading them. As the weeks went by, it seems that the students forgot about the guides, as admitted by the majority of them when they did not

know whether the learning plan had been fulfilled or not, or whether the activities and the time invested in the subjects were in line with the initial project which the guides establish. Together with the obvious disinterest of many students, another key deficiency has been the continuous enrolment process, with a high number of students registering onto the course when the classes had already started. This late incorporation of many of them, mostly caused by the mismatch between the academic calendar and the termination of the University Access Examinations – which implied a delay in enrolment of at least two weeks – generated discontent among both the students and the teaching staff. Another consequence of this has been a slowing down of the teaching activity, in order to help the newly incorporated students to understand the material, or at least facilitate their adaptation period.

The students' insufficient knowledge of the teaching guides, implying a certain degree of negligence in their own learning process, should oblige faculty members to conduct a periodic reflection of these guides, which should also involve the students. In this first year, although it may be a general characteristic not directly related to this specific process of implementing a new degree course, the students appear to adopt a passive disposition in terms of the pace that each lecturer directs his/her activity, hardly ever worrying whether the lecturer was adhering to the previously defined training programme. This, of course, does not imply that the teacher does not follow these guides, simply that there is a disinterest among the students in terms of whether the planned learning objectives are being fulfilled.

In relation to the above, but perhaps more disconcerting is that almost 30% of the students who say that they had read the guides admit that they did not understand them sufficiently, despite the fact that when designing the guides, at least in the Tourism Degree, the teaching staff set the objective of not including particularly technical or complex details.

A special case has been observed in the group who used Valencian as the vehicle language of their learning, with significant differences with respect to the rest: percentage of students who read the guides, interest in their studies, interest in the assessment system... This disparity could be due – although only as a hypothesis with its corresponding value – to the special circumstances of this group (smaller size, possibility of transferring to morning timetable, closer relationships between them...), which necessitates the consideration of conducting a study among them, in order to try to understand the divergences observed.

However, for the teaching staff, the results may be considered as being satisfactory, even in the Valencian group, where, as previously mentioned, larger specific problems were observed. In general terms, the lecturers seem to have successfully adapted their theoretical explanations and practical activities to the level of the class, establishing the appropriate pace and guidelines so that the students are able to satisfactorily complete the assigned activities. This is even more the case – maybe largely due to the teaching network that was set up for this experience – in the coordination between the lecturers of the different subject areas which can be considered as being satisfactory, with no distortions or coordination problems worthy of mention between the contents and teaching practices of each subject.

Another problem observed was a certain disconnection between the practical activities and theoretical explanations, particularly in those cases where they were not

taught by the same teacher (for example, the activities in the IT classroom, the field trips, problems or theory may have different teachers). More specifically, on some occasions the practical sessions were carried out before the corresponding theoretical explanations, which generated difficulties in understanding, which were often overcome when the subject was approached theoretically in class. This dysfunction is not attributable to the teaching staff, but is the consequence of the design of the teaching calendar and timetables, indicating that a maximum coordination between lecturers and the timetable planning of the different subjects is essential.

In the light of the student responses to the questionnaires, it would also seem advisable to adapt the practical sessions that require a more direct interaction between the teacher and student – or between the students grouped into work teams – to large groups of students. With forty or fifty students comprising the first year group, the instructions of the lecturer for a practical activity are too similar to a conventional class, and the student intervenes less spontaneously and with more reticence. However, smaller groups with around fifteen students foster a more active participation of the students who feel more confident and secure.

Other conclusions are directly associated to specific teaching-learning activities. The students appear to prefer individual assignments than those that require group participation, which is contrary to what we may have initially expected. This may be due to the fact that first year university students, especially in the first term, do not usually know each other. Groups are formed by the proximity of students to each other within the classroom or by alphabetical order, not by personal affinity or shared interests and even less according to complementarity of personal capacities when contributing to a more specific participation in a group project. Consequently, the results are not always satisfactory. This is a problem which should be analysed and for which solutions should be found; a task that is not easy at the beginning of the academic year of the initial year of university studies, requiring a more in-depth analysis.

In relation to these activities, another paradoxical conclusion for teaching staff who are trying to innovate their teaching style, establishing new practices and a variety of exercises, is that students prefer the more routine, traditional methods, such as problem solving or field work, although they have participated actively in all the specific activities that are carried out during the trip. Understanding the reasons why the students adopt preventive strategies towards new practices is one of the challenges to be addressed in the future by the teaching network.

The development of each activity is different, but, on the whole, the students do not believe there is an excessive amount of activities during the first term. Some of them have observed, however, that sometimes assignments in more or less related subjects coincide too much: therefore, a greater level of coordination is required between lecturers and subject matter. Despite these occasional coincidences, students rate very positively the usefulness of these practical sessions, to get a taste of the professional world, to adapt theoretical explanations or to facilitate their understanding of them.

The students also believe that they have satisfactorily attended the classes and dedicated the appropriate amount of time to studying outside of the classroom, although this is always difficult to verify. With respect to tutorial guidance, the results reveal a trend in students – which was also observed as a growing tendency in the last few years of the

Diploma Course – to use the virtual networks, with direct contact being used only for specific academic or other problems of the student.

Students are using new learning technologies more and more, largely due to new social habits, but also because the University of Alicante and its teaching staff have facilitated their introduction into teaching practices: power point presentations and other exhibitory resources, full availability of electronic materials that have dramatically reduced the use of photocopies, the use of the Virtual Campus as an ideal platform for submitting assignments, conducting tutorials, forums or any other form of interaction between teachers and students. Although this possibility is undoubtedly positive, some dysfunctions are beginning to be detected, such as the more distant relationship between teachers and students and sometimes a less reflexive form of study. However, attendance to class does not appear to have been affected, on the contrary, it appears to have risen.

The student is discontent with certain deficiencies related to the spaces in which he/she develops his/her learning process, in particular the small size of the classrooms, the displacement of groups for practical sessions to other buildings on the university campus that are not always near each other and the deficient functioning of some IT classrooms.

The results of these first evaluations of the implementation of the Tourism Degree have enabled some specific proposals to be made. The first, without a doubt, is that the enrolment process should be completely finished before the beginning of the term. It seems as though this will not be possible in the next academic year, beginning in September 2011, as the dates of the University Access Examinations have not been changed. Consequently, the next academic year will be characterised by a poor knowledge of the teaching guides, a late incorporation of part of the students and a coming and going of students changing courses, faculty and even university for several weeks. Secondly, the calendar of practical activities should be constructed so that it is homogeneous for the different sub-groups of a subject (and even for the same teacher, due to difficulties in drawing up timetables) and coordinated with the theoretical classes. Furthermore, an improvement and consolidation of all types of IT instruments for use by the students is required.

In short, a more exhaustive coordination between the lecturers is required, basically between the different subjects in the same term, in order to avoid the overlapping of projects and to plan an appropriate pace for activities, avoiding excessive concentration on the same dates. Coordination is also necessary between the teachers of the same subject, guaranteeing a sufficiently homogeneous learning process for the different groups. It is therefore evident that the teaching staff must improve the design of the teaching guides which are not only a work instrument, but also the backbone of the teaching practices and the relationship between the faculty members and the students, the preliminary reference (improvable and reviewable, as this study has shown), which should guide the teaching-learning process.

## **6. BIBLIOGRAPHIC REFERENCES**

### **6.1. PRINTED SOURCES**

ÁLVAREZ, L., SAN PEDRO, J. C., GARCÍA, M. S. AND GONZÁLEZ, P. (2009): “La formación del profesorado universitario ante el proceso de convergencia europeo”. In Tortosa Ibáñez, M. T., Álvarez Teruel, J. D. and Pellín Buades, N. (Coords.): *VII Jornadas*

*de Redes de Investigación en Docencia Universitaria: la calidad del proceso de enseñanza/aprendizaje universitario desde la perspectiva del cambio.*[7<sup>th</sup> Conference on Research Networks in University Teaching: the quality of the university teaching-learning process from the perspective of change] University of Alicante. pp. 322-327.

BAUTISTA, J. M., GATA, M. AND MORA, B. (2003): “La construcción del Espacio Europeo de Educación Superior: entre el reto y la resistencia”. *Aula Abierta*. nº 82. 173-189.

FERNÁNDEZ, C. M., AND RODRÍGUEZ, M. C. (2005): “Educación formal, no formal e informal en el Espacio Europeo: nuevas exigencias para los procesos de formación en educación”. *Aula Abierta*. nº 85. pp. 45-56.

GONZÁLEZ-CASTRO, P., ÁLVAREZ, L., RODRÍGUEZ, C., BERNARDO, A., NÚÑEZ, J. C., CERESO, R., ÁLVAREZ, D. and GONZÁLEZ-PIENDA, J. A. (2009): “Variables predictoras del rendimiento académico en el espacio europeo de educación superior y la universidad de Oviedo”. In Tortosa Ibáñez, M. T., Álvarez Teruel, J. D. and Pellín Buades, N., (Coords.): *VII Jornadas de Redes de Investigación en Docencia Universitaria: la calidad del proceso de enseñanza/aprendizaje universitario desde la perspectiva del cambio.* .[7<sup>th</sup> Conference on Research Networks in University Teaching: the quality of the university teaching-learning process from the perspective of change] University of Alicante. pp. 381-388.

GONZÁLEZ, J. AND WAGENAAR, R. (Edts.) (2003): *Tuning Educational Structures in Europe*. Final Report, Phase one. Universidad de Deusto. Bilbao.

IMBERNÓN, F. (1994): *La formación y el desarrollo profesional del profesorado. Hacia una nueva cultura profesional*. Barcelona: Grao.

MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (MINISTRY OF EDUCATION, CULTURE AND SPORT) (2003). *La integración del sistema universitario español en el espacio europeo de enseñanza superior*. Madrid.

PÉREZ JUSTE, R. (2000): “La evaluación de programas educativos: conceptos básicos, planteamientos generales y problemática”. *Revista de Investigación Educativa*. Vol. 18, nº 2. 261-287.

RUÉ DOMINGO, J. (2004): “La convergencia europea: entre decir e intentar hacer”. *Revista Interuniversitaria de Formación del Profesorado*. Vol. 18. nº 1. 39-59.

RUIZ CARRASCOSA, J. (2000): “La evaluación de la enseñanza por los alumnos en el plan nacional de evaluación de la calidad de las universidades. Construcción de un instrumento de evaluación”. *Revista Investigación Educativa*. Vol. 18, nº 2. 433-445.

SALVADOR MATA, F. (1994): “El profesor como mediador en el acto didáctico”. En Sáenz Barrio, O. (Dir.): *Didáctica General. Un enfoque curricular*. Marfil. Alcoy. 65-88.

SUCH, M. P.; FUENTES, R.; EVANGELIO, R.; MÚRTULA, V. AND LLORET, M. (2009): “Consideraciones sobre el proceso de elaboración de las guías docentes de las asignaturas de primer curso de la diplomatura en turismo”. In Gómez Lucas, C. and Grau Company, S. (Coords.): *Propuestas de diseño, desarrollo e innovaciones curriculares y metodología en el EEES*. Vicerrectorado de Calidad y Armonización Europea e Instituto de Ciencias de la Educación. . (Vice-rectorate for Quality and European Harmonisation and the Institute of Educational Sciences) Marfil. 219-241.

SUCH, M. P., ALCARAZ, M<sup>a</sup>. A., AMÉRIGO DEL CASTILLO, C., EVANGELIO, R., FUENTES, R., LLORET, M., MORENO, J. A., NICOLAU, J. L., PASTOR, M<sup>a</sup>. J., PLANELLES, M. J., ROMERO, R. and VALERO, J. R. (2010): “Elaboración de las guías docentes del primer curso del Grado en Turismo”. In Álvarez Teruel, J. D., Tortosa Ibáñez, M. T. and Pellín Buades, N. (Coords.): *La comunidad Universitaria: Tarea investigadora*



*ante la práctica docente*. Vicerrectorado de Planificación Estratégica y Calidad e Instituto de Ciencias de la Educación. (Vicerectorate for Strategic Planning and Quality and the Institute of Educational Sciences) 810-830.

TEJEDOR, F. J.(2000): “El diseño y los diseños en la evaluación de programas”. *Revista de Investigación Educativa*. Vol. 18. nº 2. 319-339.

THOMAS, C. R. & GADBOIS, S. A. (2007): “Academic self-handicapping: The role of selfconcept clarity and students’ learning strategies”. *British Journal of Educational Psychology*. 77. 101–119.

## 5.2. ELECTRONIC SOURCES

BELANDO MONTORO, M. R. (1999): “Los profesores del siglo XXI y la calidad de la enseñanza universitaria: en torno a la formación”. *Revista Electrónica Interuniversitaria de Formación del Profesorado*. 99-106 <http://www3.uva.es/aufop/publica/actas/ix/06-belando.pdf> (consulted in February 2011)

CANO GARCÍA, M. E. (2008): “La evaluación por competencias en la educación superior”. *Revista de currículum y formación del profesorado*. Vol. 12. nº 3. 1-16. <http://www.ugr.es/local/recfpro/rev123COL1.pdf> (consulted in January 2011)

DE MIGUEL DÍAZ, M. (Dir.)(2004): *Adaptación De los planes de estudio al proceso de convergencia europea. Programa de Estudios y Análisis destinado a la mejora de la calidad de la Enseñanza y de la actividad del Profesorado Universitario. Proyecto EA 2004-0024*. Ministerio de Educación y Ciencia (Ministry of Education and Science).

[http://www.ub.edu/eees/documents/pdfes/mec/mec\\_2004.pdf](http://www.ub.edu/eees/documents/pdfes/mec/mec_2004.pdf) (consulted in April 2009)

GONZÁLEZ VALVERDE, P. and GRANDE QUEJIGO, F. J. (1999): “Experiencia en la evaluación de la Universidad: el caso del profesorado”. *Revista Electrónica interuniversitaria de formación del profesorado*. nº 34. 61-67. (Ejemplar dedicado a: Ponencias presentadas al "IX Congreso de Formación del Profesorado: Formación y Evaluación del Profesorado Universitario", Cáceres 2-5 June 1999). <http://dialnet.unirioja.es/servlet/articulo?codigo=118005> (consulted in October 2010)

GUTIÉRREZ ROMO, C. Y MARTÍN SÁNCHEZ, M. A. (2008): “La formación del profesorado y su papel en los espacios virtuales educativos” (Teachers’ training and their role in virtual education space). Congreso Virtual Iberoamericano de Calidad en Educación a Distancia.

[http://216.75.15.111/~joomlas/eduqa2008/images/ponencias/eje\\_tematico\\_4/4\\_19\\_LA\\_FO RMACION\\_DEL\\_PROFESORADO\\_\\_Gutierrez\\_Romo\\_\\_Sanchez\\_.pdf](http://216.75.15.111/~joomlas/eduqa2008/images/ponencias/eje_tematico_4/4_19_LA_FO RMACION_DEL_PROFESORADO__Gutierrez_Romo__Sanchez_.pdf) (consulted in February 2011)

<http://www.ugr.es/~recfpro/rev131ART4.pdf> (consulted in December 2010)

MARQUÈS GRAELLS, P. (2000): “Los docentes: funciones, roles, competencias necesarias, formación” (last review 27/08/08). <http://peremarques.pangea.org/docentes.htm> (consulted in January 2011)

MAYOR RUIZ, C. (2009): “Nuevos retos para una universidad en proceso de cambio: ¿pueden ser los profesores (principiantes) los protagonistas? *Revista de currículum y formación del profesorado*. Vol. 13. nº 1. 61-77.

MUÑOZ CANTERO, J. M., RÍOS DE DEUS, M. P Y ABALDE, E. (2002): “Evaluación Docente vs. Evaluación de la Calidad”. *Revista Electrónica de Investigación y Evaluación Educativa* (RELIEVE). Vol. 8, nº. 2. 103-134. [http://www.uv.es/RELIEVE/v8n2/RELIEVEv8n2\\_4.htm](http://www.uv.es/RELIEVE/v8n2/RELIEVEv8n2_4.htm) (Consulted in May 2010)

PROCEDIMIENTO DE EVALUACIÓN DE LA ACTIVIDAD DOCENTE EN LA UNIVERSIDAD DE ALICANTE (EVALUATION PROCESS OF TEACHING ACTIVITY IN THE UNIVERSITY OF ALICANTE) (Experimental phase 2010) <http://utc.ua.es/va/documentos/docentia.pdf> (January 2011)

RODRÍGUEZ IZQUIERDO, R. M. (2007): “Mejora continua de la práctica docente universitaria: una experiencia desde el proceso de convergencia del Espacio Europeo de Educación Superior”. *Revista Electrónica Interuniversitaria de Formación del Profesorado*. Vol. 10 (1). <http://www.aufop.com/aufop/home/> - (Consulted in February 2011)

ZABALZA BERAZA, M. A. (2006): “La convergencia como oportunidad para mejorar la docencia universitaria”. *Revista Interuniversitaria de Formación del Profesorado*. Vol. 20(3). pp. 37-69. <http://redalyc.uaemex.mx/pdf/274/27411311003.pdf> (Consulted in December 2010)

# Manager's and citizen's perspective of positive and negative risks for small probabilities

**Alberto Lombardo and Stefano Barone**

University of Palermo

Department of Chemical, Managerial, Information and Mechanical Engineering

Viale delle Scienze, 90128 Palermo, Italy

alberto.lombardo@unipa.it

stefano.barone@unipa.it

## Abstract

So far 'risk' has been mostly defined as the expected value of a loss, mathematically  $P \cdot L$ , being  $P$  the probability of an adverse event and  $L$  the loss incurred as a consequence of the event. The so called risk matrix is based on this definition.

Also for favorable events one usually refers to the expected gain  $P \cdot G$ , being  $G$  the gain incurred as a consequence of the positive event.

These "measures" are generally violated in practice. The case of insurances (on the side of losses, negative risk) and the case of lotteries (on the side of gains, positive risk) are the most obvious. In these cases a single person is available to pay a higher price than that stated by the mathematical expected value, according to (more or less theoretically justified) measures. The higher the risk, the higher the unfair accepted price.

The definition of risk as expected value is justified in a long term "manager's" perspective, in which it is conceivable to distribute the effects of an adverse event on a large number of subjects or a large number of recurrences. In other words, this definition is mostly justified on frequentist terms. Moreover, according to this definition, in two extreme situations (high-probability/low-consequence and low-probability/high-consequence), the estimated risk is low. This logic is against the principles of sustainability and continuous improvement, which should impose instead both a continuous search for lower probabilities of adverse events (higher and higher reliability) and a continuous search for lower impact of adverse events (in accordance with the fail-safe principle).

In this work a different definition of risk is proposed, which stems from the idea of safeguard:  $(1 - \text{Risk}) = (1 - P) \cdot (1 - L)$ . According to this definition, the risk levels can be considered low only when both the probability of the adverse event and the loss are small.

Such perspective, in which the calculation of safeguard is privileged to the calculation of risk, would possibly avoid exposing the Society to catastrophic consequences, sometimes due to wrong or oversimplified use of probabilistic models. Therefore, it can be seen as the citizen's perspective to the definition of risk.

## Keywords

Risk matrix, Risk sustainability, Managerial perspective, Social perspective

## 1. Introduction

Any decision under uncertain conditions imposes to evaluate the ‘risk’ related to the possible consequences. Such evaluation can be absolute or relative. However, in both cases a quantitative indicator is needed to take into account all factors involved in the ‘risk’. In the first case (absolute evaluation), it is necessary to express such indicator as a measure in monetary, material or human terms (cost, number of causalities, etc.). Also in the second case (relative evaluation), this assignment is necessary but it looks less critical, because a proportional error in the definition of the measure will be neutralized.

In both cases above, the definition of risk and its measure are often confused.

In an ideal world we would like that the negative consequences (*Loss*) be null or minimal. This should be the goal of the improvement work, in technology and human sciences. Any ‘measure’ that clouds this aim or deflects from this path, has inside something wrong.

Since the consequences are usually ‘possible’, the definition – or, better, the measure – of risk is inevitably associated with the concept of probability.

Unfortunately, as we will see in this note, even if the consequences are correctly evaluated and the probability is a well-established measure, an ‘inappropriate’ mix of the two can lead to a ‘risky’ evaluation of risk. This idea will be described in Section 2 and Section 3. The concept of Probability in Risk measure in negative events and positive events are discussed in Sections 4 and 5, respectively. In Section 6 a new measure of risk is proposed, further clarified by an illustrative example in Section 7.

## 2. The Risk Matrix

Pioneer work on establishing a common definition of Risk was started in the early 60’ with Wood (1964), where risk is defined as an objective state differing from the concept of uncertainty, more related to a subjective state. Many papers have studied the relation between the perception of probability in comparison with the rational computation. This link between risk and perception of risk has been object of further studies, see e.g. Weber and Milliman (1987). They also discuss the influence of posing a question concerning a consequence either in positive (gain) or in negative (loss) way.

As for the measure of risk, a milestone work was due to Kaplan and Garrick (1981) where, in place of a simple univariate measure of risk, a more complex definition including scenarios and risk curves was proposed.

However, despite more complex definitions, in the practice of risk management, the tool generally adopted to classify risk levels is the so called *Risk Matrix*. The risk matrix has two dimensions, likelihood and severity, both usually classified on five levels. The risk level, reported on each cell of the matrix, can be usually classified on three-five levels. The risk matrix reported in

Table 1 is just an example. Slight modifications can be found depending on the specific risk analysis context.

**Table 1. Typical example of risk matrix**

LIKELIHOOD	CONSEQUENCES				
	Insignificant	Significant	Moderate	Severe	Extremely severe
Almost certain	High	High	High	Very high	Very high
Likely	Medium	Medium	High	High	Very high
Possible	Medium	Medium	High	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	Medium

In several articles such matrix has been sometimes criticized. In particular, Smith *et al.* (2009), have experimentally demonstrated for instance that [...‘*Human subjects exaggerate the influence of losses when the losses occur to their personal wealth*’...]. (We suppose that an opposite effect could occur when impersonal decisions regarding the general health, must be taken). In addition, these Authors showed that when probability is very low or very high a biasing effect occurs, deflecting its evaluation towards medium levels.

The risk matrix shows that the risk level depends on the probability of occurrence of the ‘negative event’ and the severity of the possible consequences. The ‘very high’ risk level is reserved only to the cases where both factors are at high or the highest level (the three purple cells in the top right corner of the Table).

According to us, the attention should not only be devoted to the ‘highest-highest’ and ‘lowest-lowest’ corners, leading to obvious evaluations, but mainly to the other two corners.

In fact, in those cases even an ‘extremely severe’ consequence is generally reduced to a ‘medium risk’ evaluation if a ‘low’ or ‘very low’ probability has been attributed to the event. Specularly, very likely events, characterized by low consequences, could be undervalued.

The relationship between the risk matrix and its analytical definition has been already noted by Cox (2008).

### 3. The analytical measure of Risk

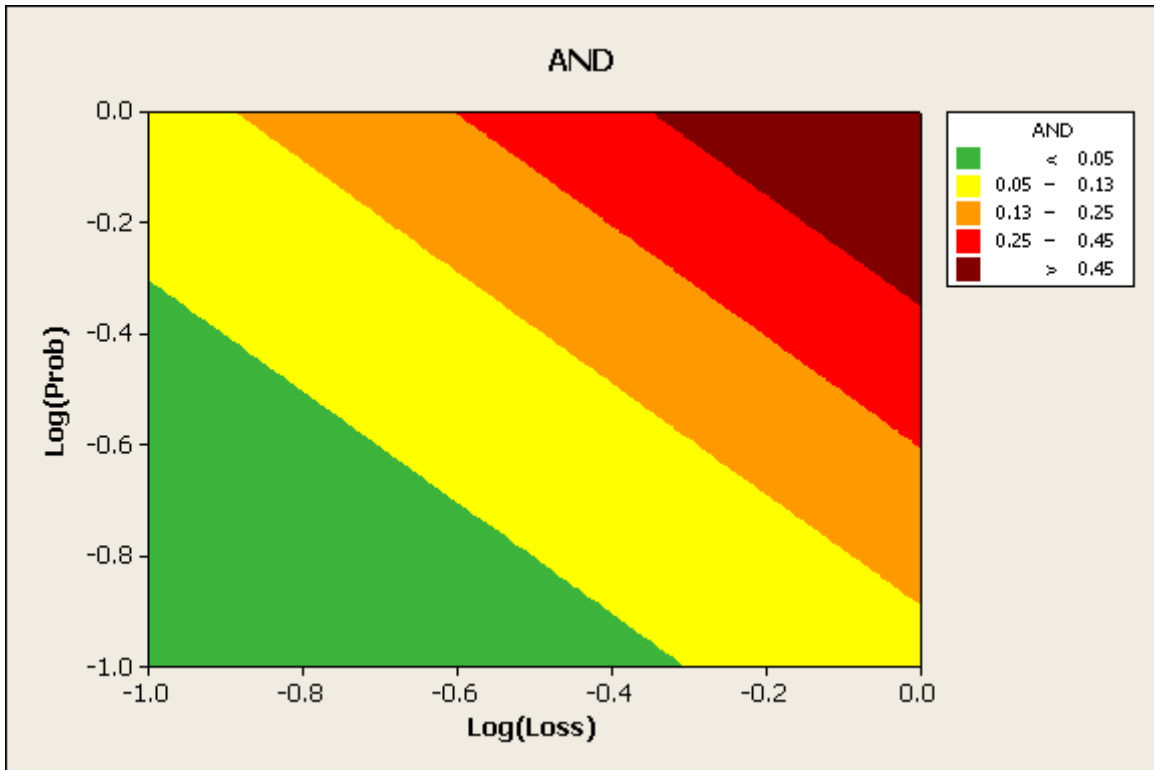
Usually, Risk is analytically measured by using the following formula:

$$Risk = Probability \cdot Loss \tag{1}$$

Whenever it is possible to quantify the consequences as a *Loss* and normalize it in a [0, 1] interval, the contour plot of this function in log-log scale is presented in Figure 1. With an opportune choice of axes scales and contour levels, it is evident that the formula (1) can be assumed as the theoretical basis

of the above mentioned risk matrix reported in

Table 1.



**Figure 1. Contour plot of the function *Probability-Loss* in log-log scales.**

Range, number of levels and their limits can be arbitrarily assigned. For the plot in Figure 1, we chose them in order to obtain a picture similar to that in Table 1.

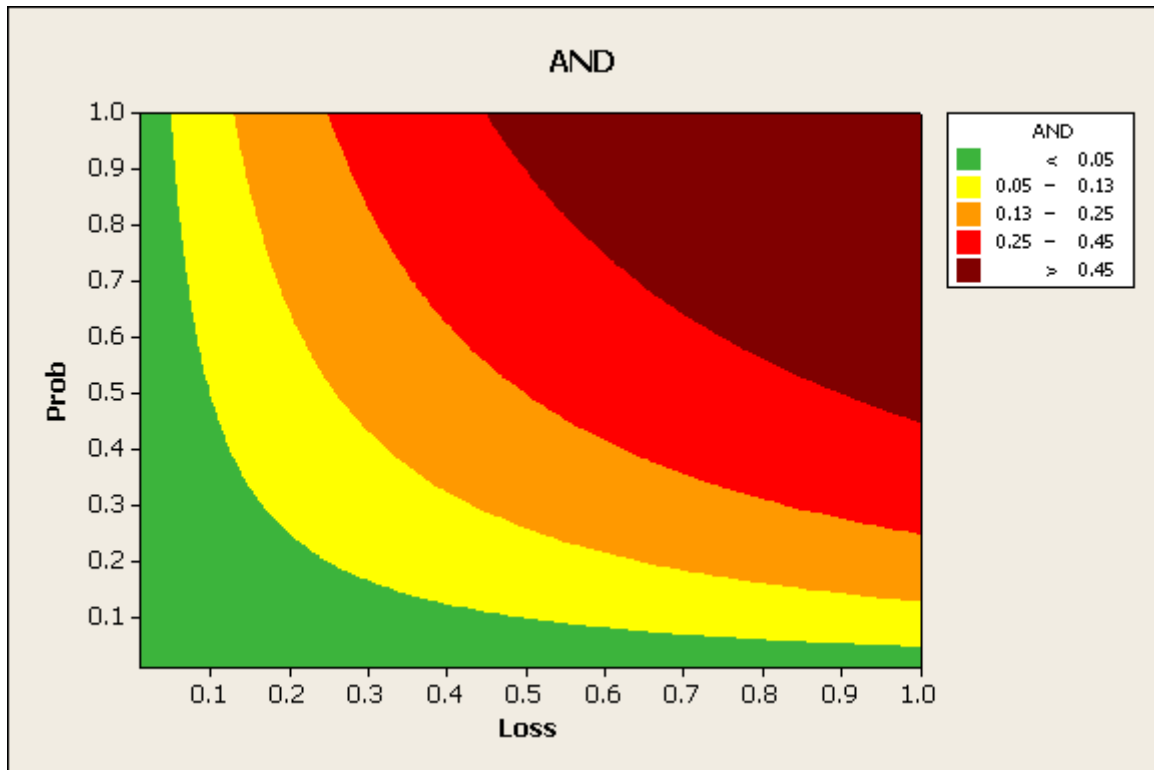
The measure of risk stated by (1) is based on the logical operator “AND”. The main aspects of such measure are the following:

- it is possible to reduce the risk level by appropriately reducing the probability of the event;
- very likely events do not entail high risk if their consequences are not severe;
- only likely AND severe events lead to extreme risk.

The drawbacks of such measure become obvious when the function (1) is plotted on natural scale axes, see Figure 2.

In this Figure limits are chosen in order to obtain five zones covering same area. Those limits are the same chosen in Figure 1.





**Figure 2. Contour plot of the function *Probability-Loss* in natural scale axes**

#### **4. The concept of Probability in Risk measure in negative events**

The measure of Risk as *Probability* times *Loss* is universally accepted, but not always adopted.

There are many cases diverging from this measure. A typical example of disagreement of everyday behavior from a probabilistic point of view concerns the insurance contracts. In order to avoid the individual risk the person accept to pay a price higher than that foreseen by the mathematical expectation.

The basis of their attractiveness lies in the fact that they match the manager's logic used by the company having the possibility of amortizing adverse events over large numbers, with the citizen's logic who prefer to pay a fee (although higher than the expected loss), rather than afford an enormous expense even very unlikely.

What does Risk mean according to the "AND" logic? Particularly, what does "probability" mean?

A typical probabilistic statement is: 'This event has a probability to occur once in a thousand years'. What does it mean? How many years we are now from the last occurrence?

This question is meaningless in a Poissonian world (remind the so called memory-less process) where the probability does not increase or decrease over time. The 'event' could either occur now or we should wait for more than expected.

The measure of Risk (1) can be also viewed as an expected cost (long-term mean), therefore it is acceptable only when "the mean is meaningful", for instance when we handle amortizable figures. In

fact Risk is appropriately seen as an expected cost when it is possible to ‘amortize’ an issue over several units (time, persons).

For example, saying “10% probability of paying a cost C” means that we expect 10 occurrences of the negative event out of 100 times, so we divide  $10 \cdot C$  by 100.

Another example: when using 100 bulbs in a row, it makes sense to sum up the lifetimes of each of them and to divide by 100 to estimate the mean life. In such a case, one long-life bulb can counter-balance several short-life bulbs. Conversely if it is necessary to use only one bulb, it is better to refer to the probability to reach an assigned time horizon. In a very asymmetrical distribution, as the Exponential one, governing memoryless processes, the probability of having an element with life-time less than the mean is the 62.3%. It means that we approximately expect that 2 bulbs out of 3 will fail before their mean life. For systems that can be modeled as “renewal processes” the mean lifetime can be used as a valid criterion, otherwise when a very high reliability is required, it is necessary to take into account more conservative percentiles.

In conclusion we think that the measure of Risk as a mean loss is in agreement with the manager’s perspective, i.e. a long term perspective, in which a today’s high cost can be amortized by several tomorrow’s low costs. This vision should never be used when non-replaceable elements are involved, like human (or living) beings, non-renewable environmental resources, and so on.

## 5. The concept of Probability in Risk measure in positive events

Another example of how probability can be assessed so differently from what the frequentist theory describes, particularly for very low probability values, is in the case of lotteries.

An analysis of the prizes in the Italian “Lotto” game is very instructive. We take this example because, being the prizes fixed, i.e. not based on the number of placed bets, the calculation of the probability to win and the corresponding prize is unique. Note that the Lotto game is based on extracting a set of 5 numbers out of 90 present in the urn.

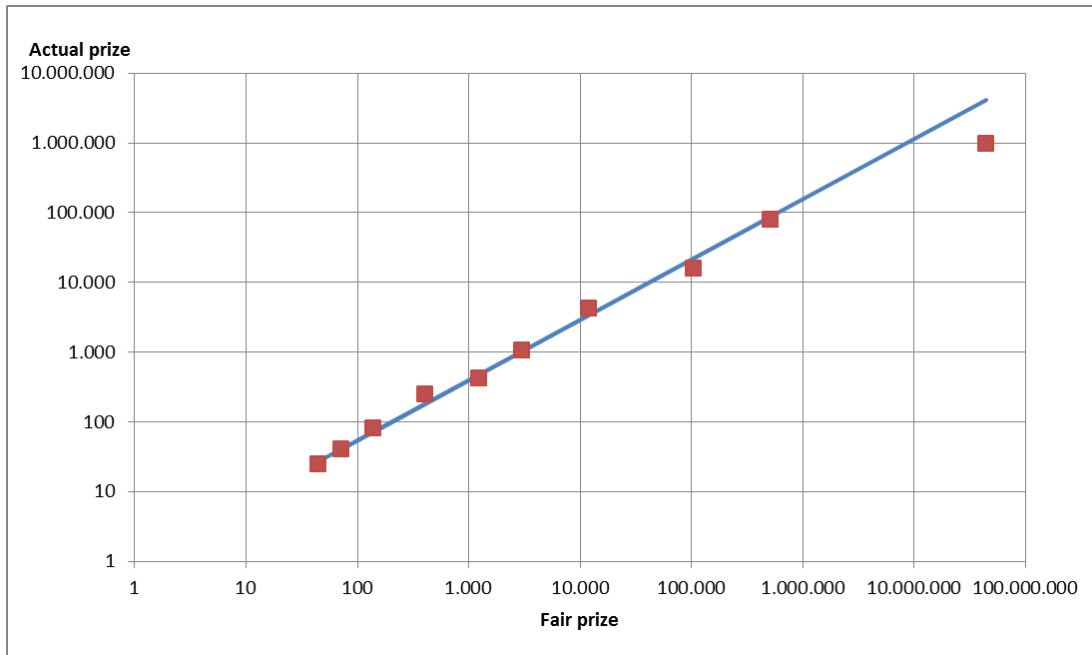
In Table 2 in Column 1 we reported how many numbers are “played”, i.e. on how many numbers we bet, in Column 2 how many numbers are extracted out of the five played; in Column 3, the probability of such event, according to the hypergeometric distribution; in Column 4 the reciprocal of this probability, corresponding to the prize in case of fair game; in Column 5 the prize actually paid (which is still affected by a 6% government tax); finally in Column 6 the ratio between the two last columns.

As is easily seen, this ratio (unfairness ratio) is not constant, but increases for decreasing probability. The law can be easily discovered by plotting the columns 4 and 5 on a bi-logarithmic scale graph. The trend is clearly linear. Although the fitting ( $R^2 = 99.16\%$ ) is already very high, we wanted to make an analysis on the residuals of the regression model. It resulted that the last point (5 played numbers - 5 extracted, i.e. the famous “cinquina”) which repays 1,000,000 times the bet, does not fit very well. Obviously, this number so striking is believed enough to ensure the attractiveness of the prize. By eliminating this element, the fitting is higher ( $R^2 = 99.56\%$ ) and now there are no points which may be considered outliers from the analysis of residuals. Also now the intercept can be eliminated, resulting in an increase in residuals that is not significant ( $F=1.36, p=0.28$ ), resulting in a very simple equation:

$$\text{Actual prize} = (\text{Fair prize})^{0.865} \quad (2)$$

**Table 2. Fair and unfair prize in Italian “Lotto”**

Played numbers	Extracted numbers	Probability of the event (p)	Fair prize = 1/p	Actual prize	“Unfairness” ratio
2	2	2.50E-03	400.50	250.00	1.70
3	2	7.24E-03	138.21	83.30	1.66
3	3	8.51E-05	11748.00	4250.00	2.76
4	2	1.40E-02	71.57	41.06	1.74
4	3	3.33E-04	3006.11	1062.50	2.83
4	4	1.96E-06	511038.00	80000.00	6.39
5	2	2.25E-02	44.50	25.00	1.78
5	3	8.12E-04	1231.07	425.00	2.90
5	4	9.67E-06	103410.04	16000.00	6.46
5	5	2.28E-08	43949268.00	1000000.00	43.95



**Figure 3. Actual prize vs. fair prize in Italian “Lotto” (log-log scale graph).**

How can we tie this result to that obtained in the previous Section? We believe that there is a strong analogy between these two results.

In the previous Section we saw that the evaluation of risk is less strong than it should be, as the probability gets lower and lower. In other words, when we go to very low probability values, we are led to behaviours that a rigorous mathematical reasoning would suggest not to have.

On a logarithmic scale, which seems to be one in which human perception feels more comfortable when in the presence of variables that have strong variations even of orders of magnitude, it is considered acceptable what would not be so on a real scale.

The same happens here. On a logarithmic scale it seems that the unfairness is kept proportional to the probability, giving us the impression that it is equally unfair to bet on events with low or very low probability of success, dazzled by the enormity of the prize in the latter case.

The Lotto game in Italy is very old, and the quotations were fixed long ago. In January 1864 a “Royal Edict” led to a first reordering of the game: the possible bets were for the simple “ambo”, “terno” and “quaterna”. In 1891, the regulation of prizes was changed again including a prize for the “quaterna” limited to only 60,000 times the bet. In 1933 it was also introduced the “cinquina” (paid 1,000,000 times the bet), and the prize for “quaterna” was increased (from 60,000 to 80,000 times).

Evidently the law that we just found should have been well known to those who firstly formulated these prizes. And there is no doubt that the progressive limitation of the winnings (growing unfairness) is still well known to those who set the prizes.

Even here we can say that the fact that so many people play this type of games well aware of the unfairness (if not of the growing one, at least the *real* one) here it also means that there is considerable discrepancy – increasing with decreasing probability – of the manager’s logic, who can promise prizes lower than the fair ones, and the logic of the individual user, who is satisfied with prizes lower than the fair ones so paying the difference of cost between the two logics in order to have access to an attractive “game”.

As the insurance case, this case refers to very low probability events too.

One intermediate conclusion could be: for very low probability events, people tend to pay a higher price than mathematical expectation, to pursue their aims.

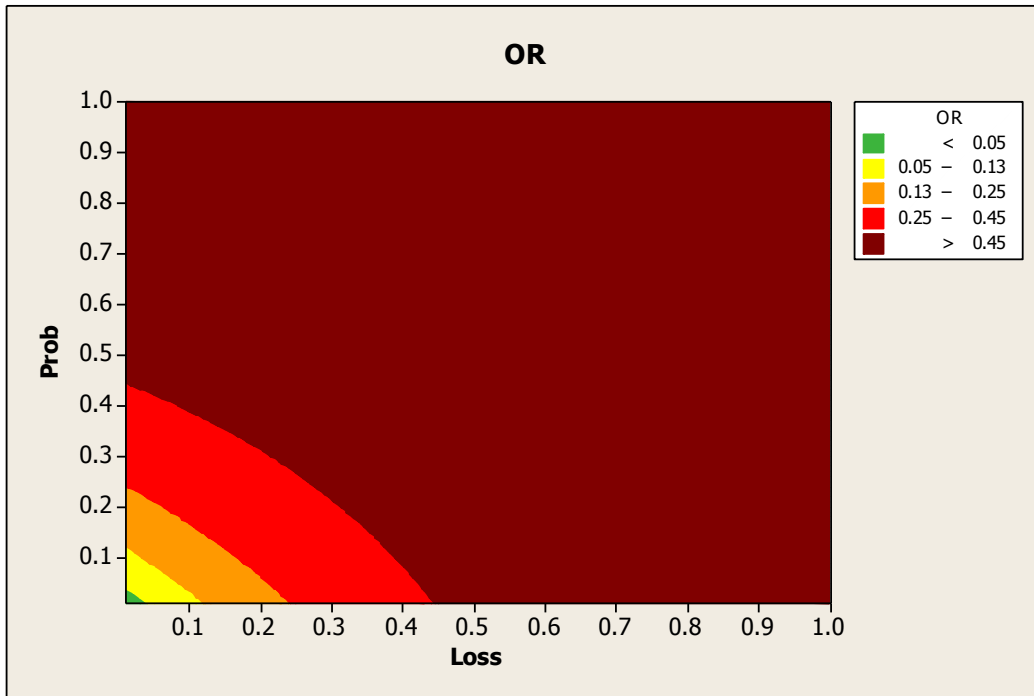
## 6. An alternative measure of negative Risk

Doubtless, the mean is a very simple and attractive way to summarize variable quantities. Moreover the product *Probability* times *Loss* is very easy and manageable. Therefore, we wish to express a new measure of Risk that is as simple as the previous one, but avoiding the drawbacks discussed above.

We may define ‘Safeguard’ as the complement to one of the Risk and as the product of ‘improbability’ times ‘saving’, therefore:

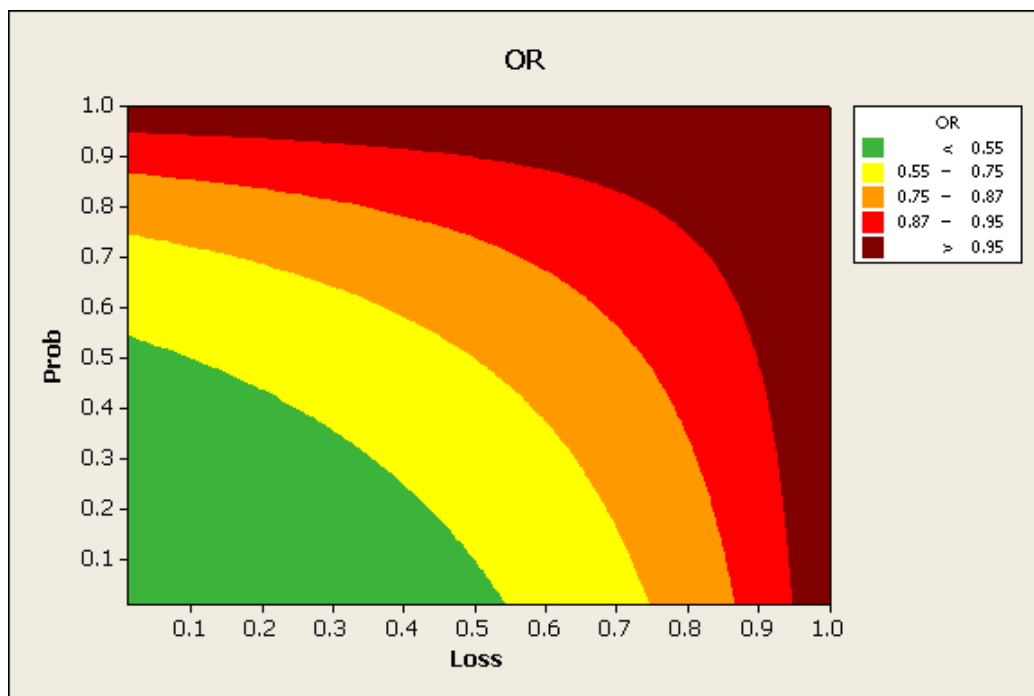
$$Risk = (1 - Safeguard) = 1 - [(1 - Probability) \cdot (1 - Loss)] \quad (3)$$

The contour plot of the function (3) in natural scale axes is presented in Figure 4, using the same number of levels and limits of Figure 2.



**Figure 4. Contour plot of the Risk function expressed in (3)**

By opportune rescaling, in order to obtain five almost equispaced zones, limits have to be changed. Hence Figure (5).



**Figure 5. Contour plot of the Risk function expressed in (3) (rescaled)**

However any rescaling does only affect an absolute evaluation of risk, but not a relative evaluation, i.e. when comparing different alternative scenarios.

The advantages of the measure of Risk expressed by (3) are evident.

In fact:

- very frequent events must be evaluated as highly risky, even if their consequences are not severe;
- events with catastrophic consequences may never be associated to an acceptable level of Risk, even when their probability is judged as negligible;
- it is sufficient the presence of high severity of consequences (*Loss*) OR high probability of the negative event to lead to a high evaluation of Risk.

The last property is in line with the precautionary principle.

We are compelled to reduce both severity and probability (whenever possible) to have an activity that can be declared SAFE; this is a path towards a real continuous improvement process that cannot be stopped when one or another of the two terms is minimized.

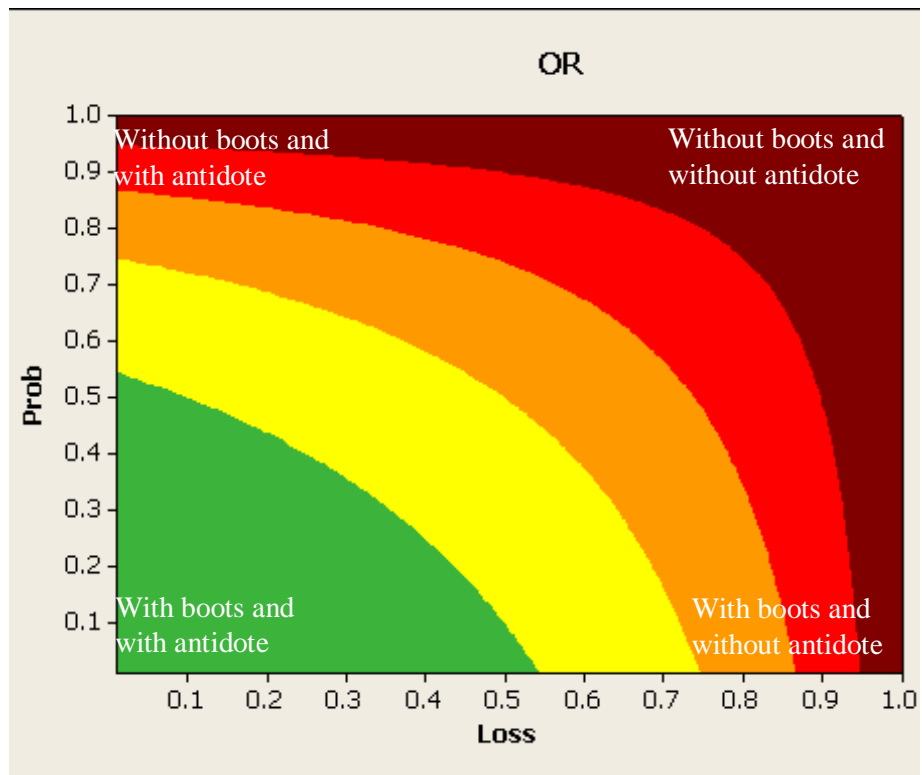
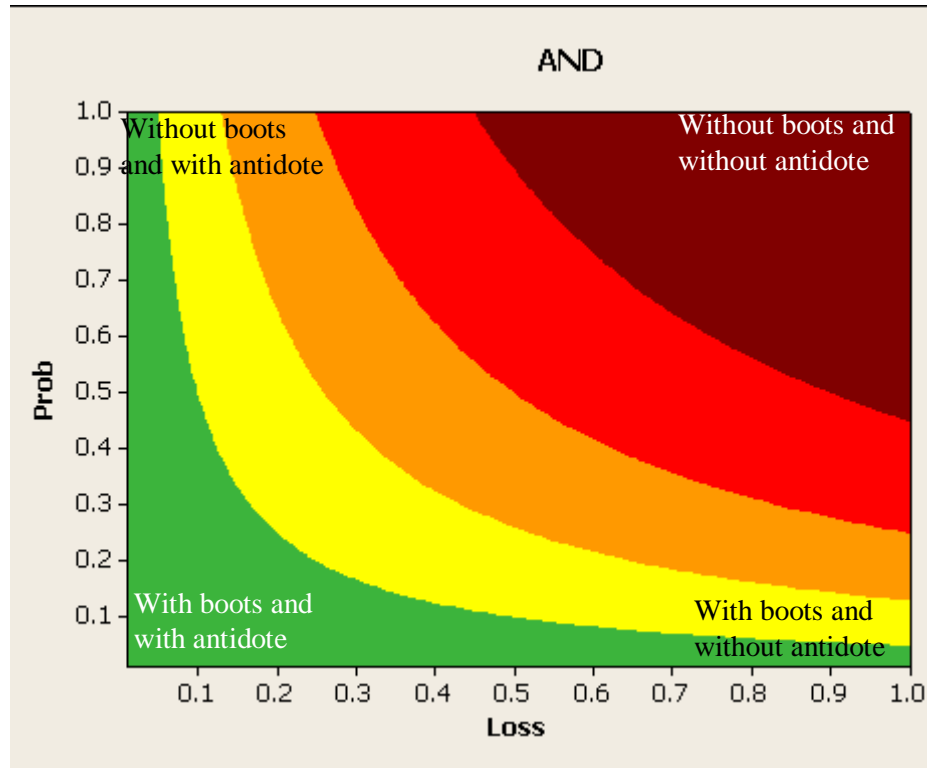
## **7. An illustrative example**

To clarify the difference on applying the two investigated measures, ‘AND’ and ‘OR’, we use an illustrative example: a walk in the countryside.

A possible danger when walking in the countryside is a viper bite. The consequences of the viper bite can be minimized using an antidote, while the probability of being bitten can be minimized by using boots.

According to the traditional ‘AND’ logic a very risky action is committed only when not using boots and not bringing an antidote. While it seems sufficient, for reducing the risk level to an “acceptable” one, to adopt just one precaution.

Conversely, according to the ‘OR’ logic here proposed, this is excluded. Not bringing an antidote OR not using boots keeps the level of risk at high levels. Only bringing antidote and using boots implies a low risk.



**Figure 6. Comparison of the Risk logics AND (Figure a) and OR (Figure b), through an illustrative example.**

## 8. Conclusions

The ‘AND’ logic, directly deriving from the measure of Risk as ‘expected consequence’, i.e. the product of *Probability* times *Loss* is a simple and effective measure that can be used (and it is used) to give managers the ability to assess the risk level of an activity and then to rank possible alternatives.

This logic, also expressed through a traditional Risk matrix, where both *Probability* and *Loss* are discretized in e.g. five levels, in our opinion may be appropriate only for central values of the two factors.

Also in the corners low-probability/low-loss, and high-probability/high-loss, the assessments are fairly obvious and do not show weaknesses.

However, when we consider the two other corners, such definition of risk has big drawbacks.

The first reason is that often low probabilities are not perceived or interpreted according the mathematic expectation. In fact for high losses or high prizes people usually accept to pay an extra-price in order to avoid catastrophic damages (insurance) or to participate to very attractive games (lottery).

The second reason is that some phenomena are not amortizable. The ‘AND’ logic can be defined as the “manager’s logic”, where it is possible to dilute a potentially catastrophic event, which can very rarely occur, over a high number of other, lucky or successful, cases. This logic often presides over the decisions of the Authorities and it is far from those who actually pay the real losses.

The alternative logic and consequent measure of Risk, that we have proposed here, the ‘OR’ logic, privileges the perspective of the citizens, who are unable to offset the consequences of a catastrophic event that could invest them, and therefore must seek to avoid in any way actions that could lead to disasters, albeit with low probability.

## References

- Cox L. A. Jr. (2008) “What’s wrong with risk matrices?”, *Risk Analysis*, Vol. 28, 2, 497-512
- Haimes Y.Y. (2009) “On the complex definition of risk”, *Risk Analysis*, Vol. 29, 12, 1647-1654
- Kaplan S., Garrick B.J. (1981) “On the quantitative definition of risk”, *Risk Analysis*, Vol. 1, 1, 11-27
- Smith E.D., Siefert W.T., Drain D. (2009) “Risk matrix input data biases”, *System Engineering*, Vol. 12, 4, 344-360
- Weber E.U., Milliman R.A. (1997) “Perceived risk attitude: relating risk perception to risky choice?”, *Management Science*, Vol. 43, 2, 123-144
- Wood O.J. Jr (1964) “Evolution of the concept of risk”, *The Journal of Risk and Insurance*, 83-91



## **ARE CITIZENS ALWAYS RIGHT?**

### **INVESTIGATING WHY CITIZENS' INPUTS ARE NOT ALWAYS BENEFICIAL TO PUBLIC SERVICES CO-PRODUCTION\***

**Francesca Magno**

University of Bergamo (Italy), e-mail: francesca.magno@unibg.it

**Fabio Cassia**

University of Bergamo (Italy), e-mail: fabio.cassia@unibg.it

#### **Abstract**

The modern public management practices strongly rely on citizens' involvement in co-producing public services during all the steps of the process including: service planning - service delivery - measuring service performance.

As particularly regards service planning (or design), several studies have demonstrated the potential of using citizens' inputs to enhance services quality. On the other side a few scholars and practitioners have questioned the idea according to which citizens' suggestions necessarily lead to the optimization of the service level for the local community as a whole. In other terms, according to this view, citizens are not always right, since their views are often partial and affected by short-terminism.

The purpose of this paper is to give a contribution to this stream of research by investigating local government administrators' and elected officials' view on this point and by assessing its impact on the actual level of co-production practices within local governments.

To explore this issue this paper presents the results both of a qualitative research involving 5 Italian local governments and of a mail survey conducted among a sample of 204 Italian local governments. The findings underline the existence of several criticisms against citizens' involvement in service design and the link between these attitudes and the actual level of co-production within local governments.

---

\* Even if the authors have equally contributed to this research, paragraphs 1, 2, 3 and 4 can be attributed to Francesca Magno and paragraphs 5 and 6 can be attributed to Fabio Cassia.

## 1. Introduction

*“Need is an abstract construct that indicates what people believe creates the best value in some everyday practice of theirs. However, if potential customers’ voiced needs had been used as guidance, we would, for example, never have had microwave ovens and text messages (sms)” (Grönroos, 2008, p. 307).*

Several marketing studies within the private sector have highlighted the importance of involving customers in designing new products and services to gain valuable insights to reduce market failures (Von Hippel, 1978; 1986). At the same time some authors have remarked that sometimes it is better to ignore customers’ ideas and suggestions, because customers can only think in terms of existing products with which they are familiar (Martin, 1995). Similarly in the public sector some analyses have supported the usefulness of involving citizens in service design (e.g. Dalehite, 2008), while a few other studies underline that citizens are not always right and, if guided by customers wants, the public organization may fail to reach its objectives (Scott, 1999).

The purpose of this paper is to give a contribution on this topic by exploring why local government’s public administrators and elected officials think that citizens are not always right and should therefore not be involved in the design of public services. Moreover this paper intends to verify whether a link between such public administrators’ attitudes and the current level of co-production within the local government exists.

The remainder of this paper is articulated as follows. In the next paragraph the rationale for involving customers in the co-creation and co-production processes is clarified by drawing on the service (dominant) perspective of marketing. The distinction between the concepts of co-creation and co-production from this perspective is clarified, as well. After that the motivations according to which the intervention of customers / citizens in the co-production phase is not always beneficial are reviewed. The results of two empirical studies are then presented and discussed, and conclusions are drawn.

## 2. The rationale for involving customers in the co-creation and co-production processes

Consumers’ involvement in product and service development processes has been suggested for a long time as fruitful since it allows an accurate understanding of user need (Von Hippel, 1978; 1986). According to the most influential recent marketing paradigms, i.e. the service-dominant (S-D) logic (Vargo and Lusch, 2004) and the service perspective on business (Grönroos, 2008), customer’s involvement in co-production activities is a fundamental component, included in the wider value (co-)creation processes.

According to the service perspective (Grönroos, 2008, p. 308), and in particular to the value fulfillment model, the firm should play two roles:

- as a value facilitator, by providing customers with the resources needed (goods, services, information or other resources) for their value creation;
- as a value co-creator, through a direct engagement in interactions with customers during their value-generating processes (consumption).

In this model the customer (and not the firm) acts as a value creator during the value-generating processes (consumption) by adding additional resources and skills held by her and through value-supporting interactions with suppliers during the value-generating processes, where value fulfillment takes place. In other terms, value is not created by the company and then exchanged with the customers (value-in-exchange) but it is determined by the user (value-in-use).

As a consequence, as value is created by customers in their practices, a thorough understanding of people's everyday practices (Grönroos, 2008, p. 307) or experiences (Lusch, Vargo and O'Brien 2007, p. 11) is the starting-point for developing customer-centric offerings. This deep understanding cannot be obtained only through conventional market research, since this tool cannot reproduce and measure emotions and cognitions triggered by experience (Kristensson, Matthing and Johansson, 2008).

Co-production, which according to this marketing paradigm is distinct from the concept of co-creation, is the way to gain such a customer-centric understanding to orientate the offering. Co-production involves the participation of the customers in the creation of the core offering itself, which can occur through shared inventiveness, co-design, or shared production (Lusch, Vargo and O'Brien, 2007). "Therefore, probably more appropriately (than value-co-creation) [it is] referred to as 'co-production'" (Lusch, Vargo and O'Brien, 2007, p. 11). In short, co-production is a component of the co-creation of value and captures "participation in the development of the core offering itself" (Vargo and Lusch 2008, p. 8).

Two different phases of customer participation/involvement can be therefore identified:

- participation/involvement during the phase of consumption (for example the interactions with salespeople to optimize the service delivery for the customer), i.e. during the value (co)creation process;

- participation/involvement during the phase of planning and designing of the product/service, which is defined as "co-production" by Vargo and Lusch. In this case the consumer is involved from the beginning of the innovation process and she has the opportunity to suggest ideas for company's forthcoming products (Kristensson, Matthing and Johansson, 2008). It should nonetheless be remarked that several authors and studies adopt the term "co-production" to indicate participation/involvement in general, also during the phase of consumption (Bendapudi and Leone, 2003).

Similarly to what happens in the private sector, several authors have highlighted the potential benefits deriving from citizen participation both in the public service planning (Cassia and Magno, 2009) and in the public service provision/consumption phases (Testa and Ugolini, 2001; Alford, 2002). In the remainder of the article we will focus on citizens' participation/involvement during the phase of planning and designing of the product/service, which we term "co-production" according to the definition of Vargo and Lusch.

### **3. Why the intervention of customers / citizens in the co-production phase is not always beneficial**

The advantages of involving customers in the design and creation of products have been widely debated in the private sector and are mainly linked to the lower rate of new products' market failures (Kristensson, Matthing and Johansson, 2008). Similarly in the public sector, citizen involvement has been regarded as beneficial both from a tangible point of view, i.e. to reduce service quality gaps and planning mistakes, and from a symbolic point of view, i.e. to increase citizens' trust in public organizations (Dalehite, 2008) and to improve community cohesion (Skidmore, Bound and Lownsborough, 2006).

At the same time several drawbacks of the mentioned co-production approach have been highlighted, both in the private and in the public sector.

Among the others, Veryzer Jr. (1998) found that caution should be taken when asking consumers to provide their inputs into the development process of really new products. As a matter of fact consumers are used to think and make evaluations in terms of existing products with which they are familiar. Consumers are often unimaginative: that is why sometimes it is

fruitful to ignore them (Martin, 1995). As Martin noted (1995, pp.121-126) “everything from cellular phones to personal digital assistants [...] would have never seen the light having [the companies] heeded initial customer feedback”. Moreover it is necessary that consumers involved in co-production have cutting experience and knowledge within and interested in the specific product/service category (Kristensson, Matthing and Johansson, 2008).

In the public sector, co-production practices have been criticized for several reasons, as well. For example Scott (1999) states that in the higher education industry students-customers’ inputs are useful to reduce the gap between customers’ expectations and actual service quality. At the same time customers are not always right and being customer-oriented and customer-responsive does not necessarily mean ‘doing everything the customer wants’: “service providers may deal with customers as if they are always right but not to the extent that the goals of the business fail to be achieved” (Scott, 1999, p. 198). Moreover customers are not always able to understand if they are receiving high quality services, since they do not own the competencies to make such evaluations (Scott, 1999).

More specifically in the field of public management, two main criticisms against public service co-production have been raised. First of all some authors assert that citizens do not have enough knowledge about local government to correctly evaluate municipal services (Stipak, 1980). In addition Van Ryzin and Immerwahr (2007) state that officials often think that customers are sometimes unaware of, or unwilling to, confess their true preferences and that their suggestions are not necessarily able to give a contribution to a real improvement in service quality. Secondly, similarly to what happens in the private sector, citizens think and make judgments in terms of existing services with which they are familiar, and they are not usually aware about the complexity of decision making in the public sector, where efficiency and satisfaction must be combined with political distribution in a long-term perspective (Brudney and England, 1982). Despite these insights, the reasons why co-producing citizens’ inputs are not always perceived as beneficial from the local government administrators’ and elected officials’ points of view, still require to be investigated in depth. Such a fundamental issue will be explored in study 1, while its implications on practical co-production practices will be analyzed in study 2.

## **4. Study 1**

### **4.1 Methodology**

To explore local government administrators’ and elected officials’ attitudes against public services co-production, a qualitative methodological approach was selected. In particular five semi-structured, in-depth interviews with Italian local government administrators and elected officials were conducted. Respondents were selected from a list of local government administrators and elected officials, who participated to a previous questionnaire survey on related issues that we conducted in 2008 and who wrote some free comments against co-production in the questionnaire they sent back to us. According to Eisenhardt’s suggestions (1989), suitable participants were chosen based on theoretical sampling, i.e. according to the expected contribution they could give to theory building. Suitable participants were contacted by phone and a phone appointment for the interview was set with those who agreed to participate in the study. The main characteristics of the towns of the respondents involved in this study are summarized in table I.

A standardized interview protocol was followed to increase research reliability (Beverland and Lindgreen, 2010). Each interview was then coded independently by the authors of the study and analyzed to identify recurring themes. The interviews were analyzed using Eisenhardt’s (1989) method of within-case and cross-case analysis.

Case	Town population	Town's geographical location in Italy
1	10,456	North-East
2	18,642	North-West
3	8,965	Centre
4	8,298	South
5	7,652	North-east

Table I: characteristics of the respondents' municipalities.

## 4.2 Results

Results are presented according to recurring issues revealed by analysis. In particular two group of motivations emerged from data analysis.

The first group of factors is related to administrator's perspective that customers' are not always right because they do not own enough experience and knowledge to make judgments that are able to objectively optimize the service level for the local community as a whole. On this point some interviewees noted that:

*"Citizens don't know exactly what they want. Citizens, like anyone, cannot objectively judge an issue and understand a job that they do not know"* (Case 1).

*"The evaluation of services by citizens is not completely reliable, they are not able to fully understand the complexity of managing public organizations and therefore are not able to make assessments and give trustable inputs"* (Case 2).

The second group of factors is linked to the potential biases deriving from involving citizens in planning decisions and from following their inputs:

*Their evaluation of services depends on the degree of compliance to their requests [...] They don't have the capacity to understand that their interests do not always coincide with the interests of the other citizens"* (Case 1).

*"It is correct to hear the views of citizens but it is not correct being driven by their emotions because they are too often tied to personal interests [...]in fact, people not knowing the problems of public sector management are not able to assess the public well being but only their own well being"* (Case 3).

*"It is important to hear what citizens think and involve them in designing services. On the other hand, their opinions cannot be binding. Their evaluations are often superficial because they cannot understand that as a public administration we have the responsibility of making long-run decisions and not only day-by-day choices."* (case 4).

*"The involvement of citizens in public affairs isn't possible because governing means making unpopular choices and no citizen will ever give inputs for decisions contrary to her interests"* (Case 5).

In sum to two main factors against co-production were identified, by analyzing respondents' answers: citizens' lack of competencies and experience to offer insightful suggestions and biases in citizens' suggestions due to short-terminism, particularism, prevalence of emotions over rationalism. The results of this qualitative analysis were the basis to develop the questionnaire for the quantitative analysis described in the next paragraph.

## 5. Study 2

Study 2 draws on the results of study 1, which highlighted the existence of two factors against co-production in the public administrators' perspective: citizens' lack of competencies and experience and biases in citizens' suggestions (due to short-terminism, particularism, prevalence of emotions over rationalism).

The purpose of this study is to verify how attitudes related to these two factors can explain current levels of co-production within local governments. The impacts of the mentioned two factors is tested through a model which also includes two other factors fostering public-services co-production, highlighted by previous studies: public administrators' citizen orientation (Cassia and Magno, 2009a) and public administrators' perceived benefits deriving from co-production (Dalehite, 2008). Furthermore, following previous studies (Cassia and Magno, 2009b) lack of financial resources was included in the model as a negative antecedent of the current level of co-production. The full model tested in study 2 is depicted in fig. 1.

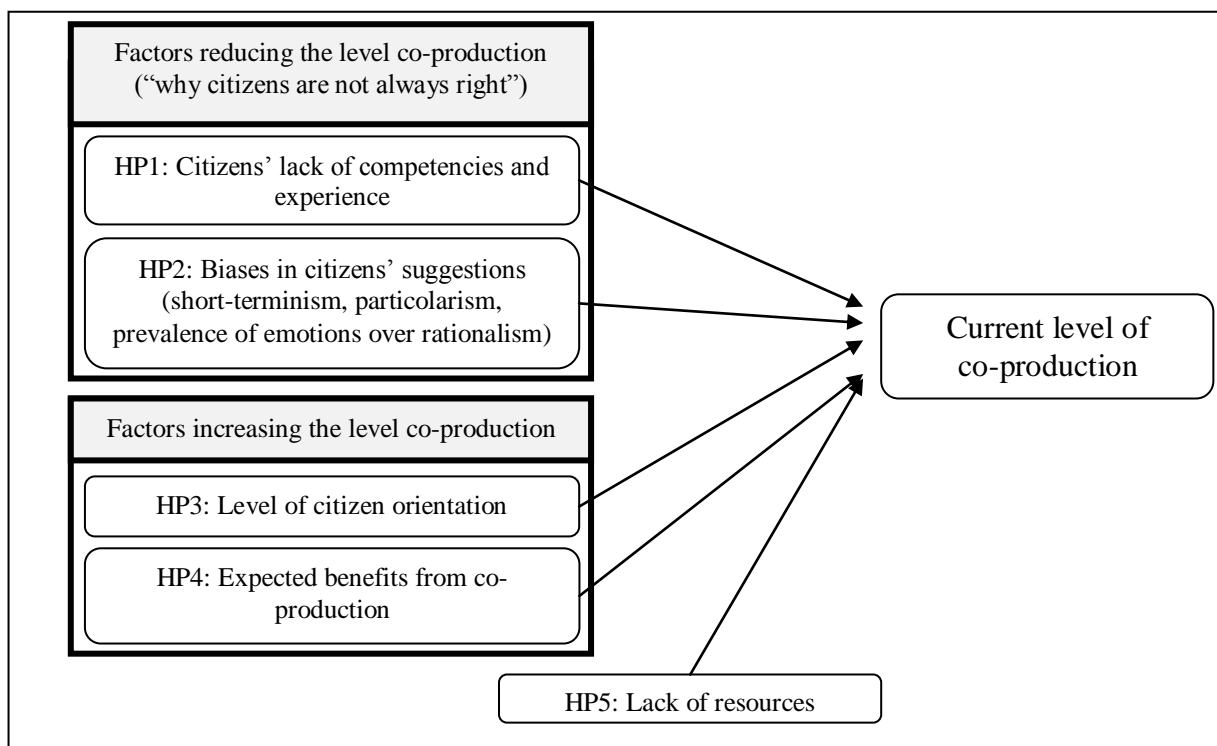


Fig. 1: the suggested model.

### 5.1 Methodology

To test the hypotheses, we sent surveys to a sample of 1,500 Italian municipalities (selected from the entire population of 8,101 Italian municipalities) in May and June of 2010. 204 questionnaires were returned, giving a response rate of 13.6%. The average population of the towns involved in the study was 9,749. The independent variables were measured in the survey through multi-item seven-point Likert scales (disagreement-agreement). As regards the dependent variable (the current level of co-production within the local government) interviewees were asked about the adoption/non-adoption of seven co-production instruments within their local government: consulting hours, citizen observation (by local government employees), spontaneous groups involvement, public meetings, discussion groups, satisfaction surveys, web tools such as communities and blogs (descriptive statistics are

provided in fig. 2). Thus for each respondent the total number of adopted tools could range from 0 to 7 (mean value=3.99). This number was used as a single indicator of the level of co-production within the local government.

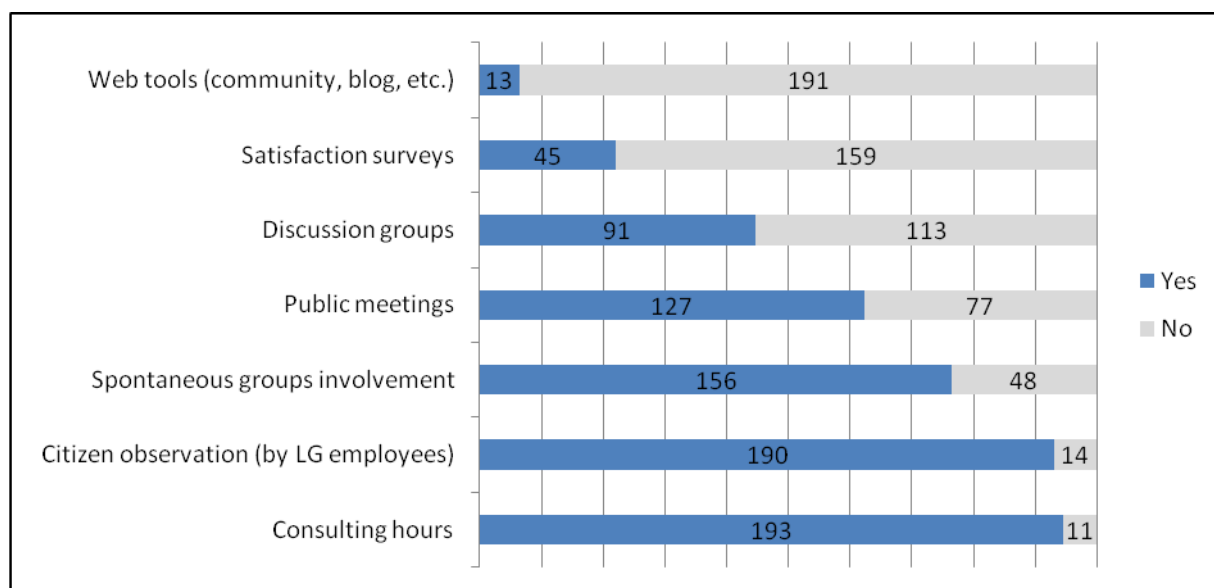


Fig. 2: adoption and non-adoption of co-production instruments within the local governments included in the sample (dependent variable).

## 5.2 Results

Before testing the suggested relations (fig. 1), factor analysis was applied to verify the validity of the suggested multi-item measures. Five factors with an eigenvalue greater than 1 were extracted, as expected. All items had substantial loadings (above 0.40) on the intended factor and the five factors explained 66.53% of the variance. The results of the factor analysis, together with the items used in the questionnaire, are shown in table II.

Item	Factor loading				
	1	2	3	4	5
<b>Level of citizen orientation</b>					
Citizens satisfaction should guide local government decisions about services provision	<b>.724</b>	-.119	.055	-.035	.144
Services should be planned according to citizens' needs	<b>.722</b>	-.116	.191	-.061	-.056
Citizens' interest should always be put in the first place	<b>.726</b>	-.052	.220	.118	.086
The most important aim of local government is a high level of citizens satisfaction	<b>.697</b>	.065	.201	.008	.230
<b>Biases in citizens' suggestions</b>					
With co-production with citizens we risk emotional and extemporaneous decisions	-.074	<b>.731</b>	-.319	.174	-.043
Citizens' involvement in designing services may lead to decisions oriented to the short-term	-.140	<b>.841</b>	.024	.053	-.079

By co-producing with citizens, particularistic choices may prevail	-.012	<b>.840</b>	-.056	.104	-.013
<b>Expected benefits from co-production</b>					
Citizens' involvement in co-production is useful to create support for local government's decisions	.134	-.070	<b>.829</b>	-.020	.111
Citizens' involvement in co-production is useful to increase citizens' trust in the local government	.304	-.075	<b>.784</b>	.000	.070
Citizens' involvement in co-production increases the sense of community	.314	-.154	<b>.500</b>	.072	.227
<b>Lack of resources</b>					
Creating co-production processes requires a lot of financial resources	-.003	.148	-.030	<b>.893</b>	-.033
Creating co-production processes requires a lot of time	.035	.114	.047	<b>.914</b>	.021
<b>Citizens' lack of competencies and experience</b>					
Citizens do not have the correct perception of service quality	-.181	.151	-.151	.208	<b>.769</b>
Citizens don't have the knowledge needed to evaluate service quality	-.262	.222	-.040	.007	<b>.771</b>
Citizens don't have enough experience to judge service quality	.056	-.254	-.163	-.206	<b>.647</b>

Table II: Factor analysis (varimax rotation) of the independent variables.

The model including the five mentioned constructs as independent variables and the current level of co-production within the local government as the dependent variable was then estimated through a linear regression. Results are shown in table III. We also tested for the presence of multicollinearity by evaluating the variance inflation factors (VIFs), which were well below the cut-off level of 10.

		<b>Beta</b>	<b>T-value</b>	<b>Sig.</b>	<b>VIF.</b>
	(Constant)		41.734	.000	
HP1	Citizens' lack of competencies and experience	-.158	-2.266	.025	1.001
HP2	Biases in citizens' suggestions	-.130	-1.862	.064	1.002
HP3	Level of citizen orientation	.213	3.044	.003	1.001
HP4	Expected benefits from co-production	.145	2.082	.039	1.001
HP5	Lack of resources	-.160	-2.284	.024	1.002

Table III. Dependent variable: current level of co-production.  $R^2=.127$ .

The findings support all the suggested relations. In particular both the perception that citizens lack the competencies and experience to offer valuable suggestions ( $\beta=-.158$ ,  $p=0.25$ ) and the potential biases in citizens' suggestions due to short-terminism, particularism, prevalence of emotions over rationalism ( $\beta=-.130$ ,  $p=0.64$ ) exert a negative impact on the current level of co-production within the local government (measured through the adoption of 7 co-production instruments). On the contrary the level of public administrators' citizen orientation ( $\beta=.213$ ,  $p=0.00$ ) and the expected benefits from co-production ( $\beta=.145$ ,  $p=0.39$ ) increase the actual level of co-production. Finally resource constraints are negatively related to the level of co-production ( $\beta=-.160$ ,  $p=0.24$ ). All the expected relationships are therefore verified. As regards the model as a whole, the variance explained is quite low ( $R^2=.127$ ). Nonetheless this finding is not surprising given the complexity of the decision-making processes within local



government: the attitude of a single interviewee within the local government cannot directly and alone determine the current level of co-production in his local government.

## **6. Discussion and conclusions**

The findings of the two studies presented in the paper support the hypothesis that local governments' public administrators and officials think that citizens are not always right and that their involvement in public services design is not always beneficial. These attitudes are related to two main factors: public administrators' perception that citizens' lack the competencies and experience to offer insightful suggestions and the concern about potential biases in citizens' suggestions due to their short-terminism and particularism and to the prevalence of emotions over rationalism. More interestingly the view that "citizens are not always right" is statistically related to the current level of co-production instruments implemented by the local government.

These findings support the extension to the public sector of the results verified in the private contexts, showing that in new product development processes it is sometimes useful to ignore customers. In particular the study seems to suggest that some particularly relevant decisions about public service planning should be taken with a certain degree of autonomy by the local government's administrators. In these cases, citizens can be consulted, but decision should not necessarily incorporate citizens' inputs.

Public administrators should also be able to evaluate the different level of importance of the inputs depending on their source. For example the most active citizens which spontaneously offer their collaboration to participate in public services co-design may be supporting (even unconsciously) their particularistic self-interest and their point of view may not be representative of the community as a whole. A similar phenomenon is documented in the literature about product innovation: companies often seek the collaboration of the so-called lead users (customers with a high level of skill and experience) but these lead users may not be able to help designing products suited to the mass market.

Despite the findings of this study, it should nonetheless be remarked that citizens' involvement in designing services remains a foundation of current public management practices and of participative governance and democracy.

Several limitations of this study should be underlined. First of all results could have been influenced by "New Public Management" degree of development within the specific research setting. Therefore attention should be paid when generalising the results to other countries. Moreover the possibility of respondents self-selection should be mentioned, which means that administrators and officials who completed the questionnaire could have been more oriented toward "New Public Management" than the whole population. Future studies could provide further insights on this topic by adopting an in-depth and longitudinal approach, to identify and analyze concrete cases in which suggestions provided by citizens during co-production processes revealed to be unsuccessful in the medium-long term.

## **References**

Alford, J. (2002), "Why do Public Sector Clients Coproduce? Toward a Contingency Theory", *Administration & Society*, 34(1), 32-56.

Bendapudi, N. and Leone, R.P. (2003), "Psychological Implications of Customer Participation in Co-production," *Journal of Marketing*, 67(1), 14-28.

- Beverland, M., and Lindgreen, A. (2010), "What makes a good case study? A positivist review of qualitative case research published in *Industrial Marketing Management*, 1971–2006", *Industrial Marketing Management*, 39(1), 56-63.
- Brudney, J. F., and England, R. E. (1982), "Urban Policy Making and Subjective Service Evaluations: Are They Compatible?" *Public Administration Review*, 42(2), 127-135.
- Cassia F., and Magno, F. (2009a), "Public services co-production: exploring the role of citizen orientation", *International Journal of Quality and Service Sciences*, 1(3), 334-343.
- Cassia, F. and Magno, F. (2009b), "Explaining citizen surveys non-adoption in local government", paper presented at the 14<sup>th</sup> Biennial World Marketing Congress – Academy of Marketing Science, July 22-25, Oslo, Norway.
- Dalehite, G.E. (2008), "Determinants of Performance Measurement: An Investigation into the Decision to Conduct Citizen Surveys", *Public Administration Review*, Vol. 68 No. 5, 891-907.
- Eisenhardt K. M. (1989), "Building Theories from Case Study Research", *Academy of Management Review*, 14(4), 532-550.
- Grönroos, C. (2008), "Service Logic Revisited: who creates value? And who co-creates?", *European Business Review*, 20(4), 298-314.
- Kristensson, P., Matthing, J. and Johansson, N. (2008), "Key strategies for the successful involvement of customers in the co-creation of new technology-based services", *International Journal of Service Industry Management*, 19(4), 474-491.
- Lusch, R. F., Vargo S. L., and O'Brien, M. (2007), "Competing through service: Insights from service-dominant logic", *Journal of Retailing*, 83(1), 5-18.
- Martin, J. (1995), "Ignore your customers", *Fortune*, 131(8), (May 1), 121-126.
- Scott, S.V. (1999), "The Academic as Service Provider: is the customer 'always right'?", *Journal of Higher Education Policy and Management*, 21(2), 193-202.
- Skidmore P., Bound K. and Lownsborough, H. (2006), *Community Participation: Who benefits?* York: Joseph Rowntree Foundation.
- Stipak, B. (1980), "Local Governments' Use of Citizen Surveys", *Public Administration Review*, 40(5), 521-525.
- Testa F. and Ugolini M. (2001), "Public services are changing: turning customer participation to better account", Proceedings of "6th World Congress for Total Quality Management", Saint Petersburg, Russia, 20-22 June.
- Van Ryzin, G. G. and Immerwahr, S. (2007), "Importance-Performance Analysis of Citizen Satisfaction Surveys", *Public Administration*, 85(1), 215-226.

Vargo, S.L. and Lusch, R.F. (2004), "Evolving to a New Dominant Logic for Marketing", *Journal of Marketing*, 68(1), 1-17.

Vargo, S.L. and Lusch, R.F. (2008), "Service-Dominant Logic: Continuing the Evolution", *Journal of the Academy of Marketing Science*, 36(1), 1-10.

Veryzer, Jr., R.W. (1998), "Key factors affecting customer evaluation of discontinuous new products", *Journal of Product Innovation Management*, 15(2), 136-150.

Von Hippel, E. (1978), "Successful industrial products from customer ideas", *Journal of Marketing*, 42(1), 39-49.

Von Hippel, E. (1986), "Lead users: a source of novel product concepts", *Management Science*, 32(7), 791-805.

# TOWARDS UNIFORMLY DEVELOPED MUNICIPALITIES, A SERBIAN PERSPECTIVE

Predrag Maletic, *Faculty of Organizational Sciences, University of Belgrade, Serbia, e-mail: [djape99@gmail.com](mailto:djape99@gmail.com)*

Marija Kreca, *Faculty of Organizational Sciences, University of Belgrade, Serbia, e-mail: [masha273@gmail.com](mailto:masha273@gmail.com)*

Veljko Jeremic, *Faculty of Organizational Sciences, University of Belgrade, Serbia, e-mail: [jeremicv@fon.rs](mailto:jeremicv@fon.rs)*

Aleksandar Djokovic, *Faculty of Organizational Sciences, University of Belgrade, Serbia e-mail: [djokovic@fon.rs](mailto:djokovic@fon.rs)*

## Abstract

Uniformly developed country is one of the basic postulates of modern economies. However, this goal is very often quite hard to accomplish. This is particularly the case for non European Union members, such as Serbia. For Serbia, one of the crucial factors of economic growth is agriculture and its significance is undisputable. North region of Serbia, Vojvodina, is widely recognized as the most developed part of Serbia with main dominant role of agricultural production. Since government officials are constantly emphasizing importance of uniformly developed municipalities, it is vital to provide insight views on the region of Vojvodina and its municipalities. In particular, we will focus our attention on small and medium enterprises incorporated into agro business. Data concerning carefully selected six economical indicators are obtained, and statistical I-distance method was performed. With this approach, we were able to rank municipalities according to their level of agro business development. Moreover, results accomplished by the means of our methodology provide vital insight about municipalities that need to be improved dramatically.

**Keywords:** small and medium enterprises (SME), agro business, I-distance method, ranking of municipalities

## 1. Introduction

The measurement of a country's welfare is one of the most critical and highly debated issues in economic research (Cracolici et al. 2010). In his recent book "You Can't Eat GNP" (Davidson 2000), Davidson addresses the hypothesis that GNP (or GDP) per capita cannot be considered as the only indicator of the performance of a country since it does not capture the overall well-being of the population. Nonetheless, it is very usual to rank countries according to their GDP (or GNP) in current literature on the subject. One potential improvement, is the World Bank's Proposed Human Development index (HDI) which is based on a country's per capita GDP, life expectancy at birth and adult literacy rate (UNDP 1990). However, this instrument has had much disagreement, in particular regarding its simple weighing of each variable and the usual high correlation between GDP and certain background variables (Gogu and Turdean 2009; Cracolici et al. 2010). The HDI is a simple equal-weighted sum of three sub-indices, each a linear mapping of the argument onto the unit interval (0, 1) by means of eight "goalposts", i.e. the selected maximum and minimum values of the arguments (UNDP 2008 p. 356). While it may appear as a simple equal-weighted sum, the HDI is actually a more complex 12-parameter function of the four arguments. A change in any of the 12 parameters will change the HDI of at least two countries and can seriously affect its rankings. It is therefore important to justify all parameters in a rational manner as is appropriate for a development index (Lind 2010). For further information on the HDI, please refer to Grimm et

al. (2008), Grosse et al. (2008) and Grimm et al. (2010). The choice of social and economic development indicators is certainly one of the most important problems when evaluating countries: the more complete the information about national development levels contained in the selected indicators is, the better the results. There are a certain number of indicators, which are always thought of as providing the most reliable information about national social and economic development (Ivanovic 1973). They are most frequently used in evaluating a country's development level; for example, its per capita GDP, the literacy rate or the percentage of the population not employed in agriculture. However, the lists used of development indicators in various national or international research institutions are not always identical, and there is constant controversy about the value and importance of one or another of these well-established indicators. In fact, it may be wondered as to whether there are actually any objective reasons as to why they should all be considered as social and economic development indicators and if others, so far overlooked or neglected, might not be more suitable than certain, traditionally used one (Ivanovic 1973).

In addition to commonly used indicators, such as per capita GDP, average life expectancy or the number of doctors/physicians per 100,000 inhabitants (World Bank 2011), this work will try to emphasize importance of agricultural business as issue that has been frequently but forward in many researches.

The increase in production, optimal use of agricultural resources, creating a stable food market, achieving greater levels of productivity, increased competitiveness of agricultural products and the realization of integrated agricultural and rural development are the strategic goals of development of agriculture of Vojvodina. Small and medium enterprises (SMEs) in agribusiness have an important role in realizing these goals (Ceranic and Maletic, 2005). Favorable natural conditions and tradition in the production and processing of agricultural products, a relatively advantageous geographical location, skilled and relatively cheap labor, good transportation infrastructure, as well as relatively unpolluted environment are just some of the factors stimulating for development of small and medium enterprises in Vojvodina. It is also important to determine what factors influence success and operation of the same company, because it is mainly financed from their income with a little help from the state (Beck and Demirguc-Kunt, 2006). Rao, et. all (2005) point out that the database (from the environment and the market) on the basis that we monitor the business mostly defines the position and level of development of SMEs, and thus the municipality in which the company is located.

Therefore, the goal of this research is evaluation and ranking the level of development of municipalities of Vojvodina based on the indicators, each in a special way measures the degree of development, and also has a complementary character. For all municipalities in Vojvodina (45 municipalities) are determine the following indicators on a three-year average basis (2006-2008.): total income, profit, working capital, fixed assets, number of firms per capita and employment rate. Data were obtained from the Bureau of Statistics based on the annual accounts of companies.

Numerous researchers deals the problem of ranking the states, municipalities and regions by different criteria. So Hermans, et. all (2010) ranked 21 countries based on traffic safety using variables: speed, presence of alcohol and drugs in blood, a condition of vehicles and roads, the protection system in the vehicle, etc., where each variable is assigned a specific weighting factors obtained by experts and formed a unique index that is used as a means of ranking. Then, Tamer Cavusgil et. all (2003) carried out the ranking of countries according to their

market attractiveness for potential investors considering the market size, market growth, intensity of market, infrastructure, the risk state, the structure of the free market and the attractiveness of the market (each variable was assigned the appropriate weights). Some researchers have dealt with the ranking of countries on the principle of non-clinical patient care (Valentine, et.all (2008)) and so on. In this study the ranking of municipalities of Vojvodina will be done using the methodology I-distance (Ivanovic, 1973).

This paper is organized as follows: section 2 focuses on methodology used to perform the analysis. Section 3 features results of the analysis. The final section of the paper underlines conclusions of the analysis.

## 2. The I-distance Method

The ranking of specific issues is quite often carried out in a way that can seriously affect the process of taking exams, entering competitions, UN participation, medicine selection and many other subjects (Ivanovic, 1973; Ivanovic and Fanchette, 1973; Jeremic and Radojicic, 2010; Al-Lagilli et al., 2011; Jeremic et al. 2011a). A key argument for applying I-distance method is that this approach is capable of synthesizing many variables into one numerical value. It has proven quite useful since all the variables have a different type of measurement (Ivanovic, 1973; Ivanovic and Fanchette, 1973).

I-distance is a metric distance in a n-dimensional space. This method has been proposed and defined in various publications that have appeared since 1963 by B. Ivanovic (Ivanovic, 1977). Ivanovic created this method to rank countries according to their level of development on the basis of several indicators. Many socio-economic development indicators have been considered in the use of this method and the problem has been how to use all of them in order to calculate a single synthetic indicator which will represent the rank.

For a selected set of variables  $X^T = (X_1, X_2, \dots, X_k)$  chosen to characterize the entities, the I-distance between the two entities  $e_r = (x_{1r}, x_{2r}, \dots, x_{kr})$  and  $e_s = (x_{1s}, x_{2s}, \dots, x_{ks})$  is defined as:

$$D(r, s) = \sum_{i=1}^k \frac{|d_i(r, s)|}{\sigma_i} \prod_{j=1}^{i-1} (1 - r_{ji.12\dots j-1}) \quad (1)$$

where  $d_i(r, s)$  is the distance between the values of the variable  $X_i$  for  $e_r$  and  $e_s$ , e.g. the discriminate effect,

$$d_i(r, s) = x_{ir} - x_{is}, \quad i \in (1, \dots, k) \quad (2)$$

$\sigma_i$  the standard deviation of  $X_i$ , and  $r_{ji.12\dots j-1}$  is a partial coefficient of correlation between  $X_i$  and  $X_j$ , ( $j < i$ ), (Ivanovic, 1973; Jeremic et al. 2011b).

The construction of the I-distance is iterative. It is calculated through the following steps:

1. calculate the value of the discriminate effect of variable  $X_1$  (the most significant variable, which provides the largest amount of information on the phenomena needed to be ranked);
2. add the value of the discriminate effect of  $X_2$  which is not covered by  $X_1$ ;

3. add the value of the discriminate effect of  $X_3$  which is not covered by  $X_1$  and  $X_2$  ;
4. repeat the procedure for all variables (Mihailovic et al., 2009; Jeremic et al. 2011c; Jeremic et al. 2011d).

This I-distance fulfils all 13 conditions for defining the measures of distances and has proven useful in overcoming differences in measures. It is essential to point out that the I-distance method requires a standardization of all data.

Sometimes it is not possible to achieve the same sign mark for all variables in all sets, therefore a negative correlation coefficient and negative coefficient of a partial correlation may occur. Thus, the use of the square I-distance is even more desirable, which is given as:

$$D^2(r, s) = \sum_{i=1}^k \frac{d_i^2(r, s)}{\sigma_i^2} \prod_{j=1}^{i-1} (1 - r_{ji.12..j-1}^2). \quad (3)$$

In order to rank the entities - municipalities in this case- in the observing set using the I-distance methodology, it is necessary to fix one entity as a referent: an entity with a minimal value for each indicator. The ranking of the entities in the set is based on the calculated distance from the referent entity.

### 3. Results

In this paper, attention is being focused on examining municipalities. In order to rank the municipalities, the following six variables have been used (Table 1):

Table 1. Input indicators for determining municipalities development level

<i>Indicators</i>
Total income
Profit
Working capital
Fixed assets
Number of firms
Per capita employment rate

The results achieved through the use of the I-distance ranking method are presented in Table 2.

Table 2. The Results of the Square I-distance Method, I-distance Value and Rank

<b>Municipalities</b>	<b>I-distance</b>	<b>Rank I-distance</b>
Novi Sad - grad	33.5	1
Pančevo	27.49	2
Bačka Topola	24.83	3
Bečej	20.5	4
Sombor	12.99	5
Zrenjanin	12.98	6
Sečanj	12.78	7
Subotica	10.7	8
Srbobran	10.36	9

<b>Municipalities</b>	<b>I-distance</b>	<b>Rank I-distance</b>
Vrbas	9.45	10
Kula	8.1	11
Alibunar	7.73	12
Mali Idoš	6.96	13
Bački Petrovac	6.67	14
Sremska Mitrovica	6.28	15
Kikinda	6.13	16
Žitište	5.41	17
Odžaci	5.01	18
Kovačica	4.89	19
Bačka Palanka	4.72	20
Bač	4.32	21
Plandište	4.13	22
Bela Crkva	3.86	23
Vršac	3.86	24
Ruma	2.83	25
Nova Crnja	2.78	26
Apatin	2.14	27
Senta	2.07	28
Stara Pazova	2.07	29
Čoka	2.06	30
Šid	2	31
Indija	1.84	32
Žabalj	1.8	33
Ada	1.62	34
Novi Bečej	1.3	35
Opovo	1.22	36
Titel	1.21	37
Temerin	0.89	38
Kovin	0.81	39
Kanjiža	0.72	40
Novi Kneževac	0.71	41
Irig	0.52	42
Pećinci	0.45	43
Beočin	0	44
Sremski Karlovci	0	45

The city of Novi Sad has a major presence, a larger number of observed indicators. Above all, has the largest number of SMEs in agribusiness, and thus the total income, fixed assets and profit and is based on the value I-distance at the top of the ranking list (Table 1). The municipality of Pancevo compared to Novi Sad has a slightly smaller number of SMEs, and thus the total income, fixed assets and profits, but the largest amount of fixed assets and working capital, so this municipality is at second place on the list. Followed by Backa Topola and Becej with less input values of observed indicators. The four municipalities occupy the top of the hierarchical ladder and greater representation of SMEs in the agribusiness sector compared to other municipalities of Vojvodina.



Municipality of Sombor, Zrenjanin, Secanj, Subotica and Srbobran make the next group in a hierarchical series of I-distance. They were registered between 10 and 50 SMEs in agribusiness. Therefore, the representation of the observed indicators are above average.

Last eight municipalities have a value below the I-distance one, while Sremski Karlovci and Beocin have a I-distance value zero. They counted only three SMEs involved in agribusiness, which results in low participation and all other indicators.

This data set was further examined and a correlation coefficient of each indicator with the I-distance value was determined. This is crucial, because it provides information on how important each of the six input indicators are. The results of which are presented in Table 3 (Pearson correlation test has been used).

Table 3. The Correlation between I-distance and Input Indicators

<b>Indicators</b>	<b>r</b>
Total income	0.913**
Working capital	0.887**
Profit	0.764**
Fixed assets	0.744**
Number of firms	0.686**
Per capita employment rate	0.337*
** p<0.01	*p<0.05

The value of all Pearsons coefficients is high or medium and statistically highly significant ( $p<0.01$ ), except in the last indicators Per capita employment rate, where the significance is somewhat lower but it is statistically significant ( $p<0.05$ ). The volume of dependence of the tested input indicators and the I-distance is a logical and acceptable from the point of practice.

Table 2 shows that the total income is the most important variable for the calculation of the I-distance, and it provides the greatest amount of information. It correlates highly with the I-distance value ( $r = 0.913$ ). Which is understandable, given that total income always presents a primary feature of the economic analysis, and the ranking of the SMEs. Companies that have a higher total income occupy leading positions on the ladder of success. Further, the following indicator working capital with the correlation of 0.887. These two variables are crucial to the relatively high ranking of individual municipalities. The resultant effects of the first two indicators directly determines the level of profits as the third most important feature in the series ( $r = 0.764$ ). Slightly lower coefficient of correlation, but still statistically significant, was measured at features that monitors Fixed assets (0.744), followed by Number of Firms (0.686) and sixth is the correlation indicator that belongs to Per capita employment rate (0.337).

#### **4. Conclusion**

Economic development of Serbia must be based on the affirmation of private ownership and market economy from the standpoint of a more favorable and efficient environment for foreign direct investment and SME development in the field of agriculture.

The need for ranking municipalities is extremely high in order to evaluate the level of development and representation of certain sectors of production, and thus small and medium size businesses. Using a methodology I-distance that was done here the problem of the ranking is very easy to exceed.

Numbers of SMEs is an indicator that directly determines the level of development of all other input indicators, and thus the overall development of the municipality. Therefore, the urban municipalities of Novi Sad and Pancevo, which in their environment have developed primary agricultural production, influenced the organization of enterprises in the form of SMEs and their number is significantly higher than in other municipalities. Therefore, they are in the top rankings. Municipalities that don't have developed agricultural production, do not have a high presence of SMEs in agribusiness neither and thus occupy the head of ranking I-distance (Beocin Sremski Karlovci).

These results should be guidelines for future development and organization of entities in agriculture. It must be developed in parallel direct agricultural production and entrepreneurship in the form of SME.

## References

- Al-Lagilli, S., Jeremic, V., Seke, K., Jeremic, D. and Radojicic, Z. (2011) Evaluating the health of nations: a Libyan perspective. *Libyan Journal of Medicine*, 6:6021.
- Beck, T., Demirguc-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance* 30 (2006), 2931–2943. DOI: 10.1016/j.jbankfin.2006.05.009
- Cavusgil, S.T., Kiyak, T., Yeniyurt, S. (2004). Complementary approaches to preliminary foreign market opportunity assessment: Country clustering and country ranking. *Industrial Marketing Management* 33 (2004), 607– 617. DOI: 10.1016/j.indmarman.2003.10.005
- Ceranic, S., Maletic, R. (2005). The Development Strategy of Serbian Small and Medium Agrobusiness Enterprises. Monograph, «Family farms of Serbia in changings», 265-285, Faculty of Agriculture, Belgrade.
- Cracolici, M.F., Cuffaro, M., & Nijkamp, P. (2010). The Measurement of Economic, Social and Environmental Performance of Countries: A Novel Approach. *Social Indicators Research*, 95(2), 339-356. doi:10.1007/s11205-009-9464-3.
- Davidson, E. A. (2000). You can't eat GNP: Economics as if ecology mattered. Cambridge, MA: Perseus.
- Gogu, E., & Turdean, M.S. (2009). Methods of statistical analysis of the relation existing between human development index and human poverty index. *Metalurgia International*, 14(6), 137-142.
- Grimm, M., Harttgen, K., Klasen, S., & Misselhorn, M. (2008). A human development index by income groups. *World Development*, 36(12), 2527–2546. doi:10.1016/j.worlddev.2007.12.001.
- Grimm, M., Harttgen, K., Klasen, S., Misselhorn, M., Munzi, T., & Smeeding, T. (2010). Inequality in Human Development: An Empirical Assessment of 32 Countries. *Social Indicators Research*, 97(2), 191-211. doi: 10.1007/s11205-009-9497-7.
- Grosse, M., Harttgen, K., & Klasen, S. (2008). Economic growth and poverty reduction: Measurement issues in income and non-income dimensions. *World Development*, 36(3), 420–445. doi: 10.1016/j.worlddev.2007.03.008.
- Hermans, E., Ruan, D., Brijs, T., Wets, G., Vanhoof, K. (2010). Road safety risk evaluation by means of ordered weighted averaging operators and expert knowledge. *Knowledge-Based Systems* 23 (2010), 48–52. DOI: 10.1016/j.knosys.2009.07.004
- Ivanovic, B., 1973. A method of establishing a list of development indicators. Paris: United Nations educational, scientific and cultural organization.

- Ivanovic, B., 1977. Classification Theory. Belgrade: Institute for Industrial Economic.
- Ivanovic, B., Fanchette, S., 1973. Grouping and ranking of 30 countries of Sub-Saharan Africa, Two distance-based methods compared. Paris: United Nations educational, scientific and cultural organization.
- Jeremic, V., and Z. Radojicic (2010). A New Approach in the Evaluation of Team Chess Championships Rankings, *Journal of Quantitative Analysis in Sports*, 6(3). doi: 10.2202/1559-0410.1257.
- Jeremic V, Bulajic M, Martic M, Radojicic Z, (2011a). A fresh approach to evaluating the academic ranking of world universities, *Scientometrics*, 87(3):587-596.
- Jeremic, V., Isljamovic, S., Petrovic, N., Radojicic, Z., Markovic, A., Bulajic, M., (2011b) Human development index and sustainability: What's the correlation? *Metalurgia International*, 16(7):63-67.
- Jeremic, V., Vukmirovic, D., Radojicic, Z., Djokovic, A., (2011c). Towards a framework for evaluating ICT infrastructure of countries: a Serbian perspective? *Metalurgia International*, 16(9).
- Jeremic V, Seke K, Radojicic Z, Jeremic D, Markovic A, Slovic D, Aleksic A. (2011d). Measuring health of countries: a novel approach. *HealthMED*, In Press.
- Lind, N. (2010). A Calibrated Index of Human Development. *Social Indicators Research*, 98, 301–319. doi: 10.1007/s11205-009-9543-5.
- Mihailovic, N., Bulajic, M., Savic, G., 2009. Ranking of banks in Serbia. *YUJOR*, Vol. 19, No 2. ISBN:86-84435-06-0.
- Rao, P., Castillo, O., Intal, Jr.P.S., Sajid, A. (2006). Environmental indicators for small and medium enterprises in the Philippines: An empirical research. *Journal of Cleaner Production* 14 (2006), 505-515. DOI: 10.1016/j.jclepro.2005.03.016
- UNDP. (1990). Human development report. New York: Oxford University Press.
- UNDP. (2008). Human development report. (United Nations Development Program).
- Valentine, N., Darby, C., Bonsel, G.J. (2008). Which aspects of non-clinical quality of care are most important? Results from WHO's general population surveys of "health systems responsiveness" in 41 countries. *Social Science & Medicine* 66 (2008), 1939-1950. DOI: 10.1016/j.socscimed.2007.12.002
- World Bank. (2011). World Development Indicators. Retrieved Mar 22, 2011, from <http://data.worldbank.org/data-catalog/world-development-indicators>

**Alternative dispute resolution techniques can work for better services?  
The case of Italian banking industry**

Antonella Malinconico, Prof.  
SEGIS Department  
University of Sannio – Benevento  
e.mail: malinconico@unisannio.it

Chiara Frigerio, Ph.D.  
SeGESTA Department  
Università Cattolica del Sacro Cuore – Milano  
e.mail: chiara.frigerio@unicatt.it

Assunta Leone, Dott.  
Banca Sella Sud  
e-mail: assunta.leone@sella.it

## **1. Introduction<sup>1</sup>**

Financial and economic crises have let regulators, institutions and financial stakeholders to focus on the crucial role of reputation and trust for assuring the financial and economic stability. For this reason, European regulators and Basel Committee on Banking Supervisor, in particular, have requested to banks to measure reputational risk for controlling and mitigate its consequences.

Reputational risk can be caused by both oversight strategic choices and faults on operational processes affecting the quality service. This paper focuses on quality service as antecedents of reputational risk, since it follows the stream of literature interested in understanding the effect of organizational choices (affecting quality services) on business performance (specifically, reputational performance) in banking.

The relationship among quality service, financial system reputation, and stability is well-known to EU and national authorities which are working for introducing several regulations, procedures and systems in order to enhance the financial customer protection for improving the level of trust between clients and banks. In Italy, new regulations for banking, financial, and insurance products have been issued for reducing information asymmetries (transparency) and improving fairness on business conduct (correctness). New requirements for complains handling have been provided by financial authorities to banks, as well as alternative dispute resolution (ADR) systems, including arbitration, have been introduced as an essential release valve for the country's overburdened civil justice system.

---

<sup>1</sup> Although the paper is the result of a joint study, Section 1 can be attributed to both Chiara Frigerio and Antonella Malinconico; Section 2 and Section 3 to Chiara Frigerio, Section 4 to Antonella Malinconico, Section 5 both Antonella Malinconico and Assunta Leone and the last section to Chiara Frigerio, Assunta Leone and Antonella Malinconico.

The following paper focuses specifically on the effect of ADR systems on the protection of customers, not only in individual cases, but also more generally because they guide banks towards correct behavior. Following the literature and the regulators, the paper's hypothesis is that ADR systems can contribute to increase quality service, and thus contribute to the stability of financial system. As the ADR system is operating in Italy since just October 2009, this paper provides an explorative analysis for understanding the preliminary features of ADR in Italy. In our empirical analysis we refer to the statistics on Italian bank dispute in retail bank service, in order to assess to what extent the ADR has been used by Italian financial consumers, and which are the effects produced on banks' behavior towards clients.

Since no effect on quality service and reputation risk can be proved due to the short term of implementation, we provide a research agenda for evaluate the real contribution of ADR in reputational performances of banks.

The second and third section of the paper introduce the theoretical framework about the link among reputational risk, service quality and consumer protection. Section 4 and 5 provide evidence on ADR systems in Italy , while section 6 provides conclusion and further research.

## **2. The influence of Service Quality on Reputational Risk**

Recent financial crises have shown to what extent reputational risk can influence banks and financial institutions' performances. Several academic research have shown the negative impact on banks' stock prices due to reputational events like operational losses (Perry and De Fontnouvelle, 2005), interest conflicts (Walter, 2006), and other compliance events (Gabbi, 2003). Since banks-clients relationships are grounded on trust-based contracts, the amount of reputation of banks influences the development and stability of the relationship, and, thus, of the entire financial system. That is the main reason that motivated Basel Committee on Banking Supervisors to pay attention to the reputational risk even in Basel II framework. In the "Enhancement to the Basel II framework", the Committee introduces the concept of reputational risk as "...the risk arising from negative perception on the part of customers, counterparties, shareholders, investors, debt-holders, market analysts, other relevant parties or regulators that can adversely affect a bank's ability to maintain existing, or establish new, business relationships and continued access to sources of funding (e.g. through the interbank or securitisation markets)" (Basel Committee, 2009: 19). The effect on the quality of funding and on the sustainability of the business become even more crucial in the Basel III framework, with the consequence that reputational risk is still a huge issue for banking industry (Basel Committee, 2010).

The clear definition given by Basel Committee lets us to understand that reputational risk is a traditional risk, in the sense that it is not a new concept neither for financial banks nor for other manufacturing and service companies (Patarnello, 2010; Haynes, 2005). The major novelty for banks is the emphasis put by regulators on the needs for measuring and controlling reputational risk, stating that bank managers "should have appropriate policies in place to identify sources of reputational risk when entering new markets, products or lines of activities" (Basel Committee, 2009: 20).

Despite the comprehensibility and sharing of the definition, what seems to be less clear and common is the assessing criteria for reputational risk. Complexity rises from the multidimensional nature of reputational risk which makes it as *exogenous*, influenced by external and market factors, *subordinate*, caused by other primary risks as market, credit or compliance risk, *judgemental*, based on subjective and qualitative estimates of both source of risk and their effects, and *situational*, due to its nature of event-based risk (Anolli, 2010; Neef, 2005).

These features let the regulators to consider reputational risk as a “framework” risk, not impacting directly on capital requirements, but incorporated into banks’ ICAAP as a “function of the adequacy of the bank’s internal risk management processes, as well as the manner and efficiency with which management responds to external influences on bank-related transactions.” (Basel Committee, 2009: 19).

From this statement, it is clear that reputational risk should measure to what extent risk management procedures and, broadly speaking, strategic and management policies and decisions are perceived trustable by stakeholders.

This emphasis put by regulators to the reputational effects of strategy and management decision is more and more important in the financial systems due to a) the greater exposure of banks business in economic systems, b) the higher creative innovation in banking and financial products - often not clear for stakeholders, c) the public company regime of banks and financial institution, d) the higher attention to service quality, also requested by compliance duties.

With regard to service quality, in particular, banks’ stakeholders are improving their attention towards assessing the real value of financial products and their delivering processes, as a parameter for the longevity and sustainability of trust-based relationships among banks and their customers. Following this evidence, it should be investigate the relationship among service quality as the “measure of how well the service level delivered matches customer expectations” (Lewis and Booms, 1983) and bank reputation.

Recent literature demonstrates that although there is not sufficient evidence that company reputation influences banking quality services (Cretu and Brodie, 2007), on the contrary there is evidence that service and product quality increases the bank’s reputation (Wang et al, 2003). These authors demonstrate that in the banking industry, the higher the perceived quality service from customer, the lower the reputational risk exposure and, on the contrary, the lower perceived quality services from customer, the higher reputational risk exposure.

Moving from consequences to antecedents of service quality, the academic literature converges on the importance of behavioural and process indicators, such as attentiveness, responsiveness, care, and assurance, as the main influencing variables of the banking service quality (Bloemer et al. 1998; Wang et al., 2003). Such variables can be measured through customer satisfaction analysis, loyalties indicators, as well complaint handling systems.

### **3. Complaint management systems and customer protection**

Complaints management systems are related to the process of receiving, investigating, settling and solving controversies coming from customers who complain against a

procedure or a financial product. Despite complaints management systems are mandatory in all European banks, not all banks have historically paid strongly attention to assure an excellent customer recovery, since a few banks have proved the effects of excellence in complaints management with financial performances (Johnston, 2001), and customer satisfaction (Parasuraman et al., 1991; Levesque and McDougal, 1996).

Nevertheless, in the light of financial stability and economic growth, European financial authorities and regulators have stated the positive relationship between transparencies procedures (and complaint management systems) and consumer protection, which prevent legal and reputational risk of the banking industry.

Consumer protection is one of the strongest objectives that both European Commission and National Financial Authorities have in their agenda. Especially, financial consumers rights are stated in several EU directives that, from 80's, are regulating specific banking and financial business (e.g. payment services, consumer loans, financial services etc.). In all these directives, EC requests for specific procedures for reducing informational asymmetries between banks and customers, in order to improve the trust-based relationships, and assure sustainability of the banking business.

Despite some differences in the implementation of directives at national levels, all European countries have made changes on their own national laws for including financial customers' protection, and assigned to the national financial authorities the supervision duties for controlling the respect of the customer by banks (Boccuzzi, 2010).

In UK, for instance, financial customer protection has been implemented in primary laws and banking regulations. The *Financial Services Authority* (FSA) is in charge of both customer protection and financial stability. The directive implementation and the authorities systems are more articulated in France, where several authorities, such as *Autorité de contrôle prudentiel and Autorité des Marchés Financiers* – ACP and *Comité Consultatif du Secteur Financier* are in charge of assuring financial customer protection, in accordance with *Banque de France*, which is in charge of the financial stability. Financial consumer protection rights are present both in French primary laws and sectorial regulations. Germany has implemented the financial consumer rights in the primary laws, and *Bundesanstalt für Finanzdienstleistungsaufsicht* – BaFin, as well as *Bundesbank* have both the supervisory role on banks. In Spain, consumer protection is a constitutional law. However, financial consumer protection has been implemented by primary and secondary regulations, and the Ministry of Economy, with the *Banco de España*, *Comisión Nacional del Mercado de Valores*, and *Dirección General de Seguros y Fondos de pensiones* are the authorities in charge to supervise on them.

In Italy, several authorities such as *Antitrust*, *Banca d'Italia*, *Consob*, *Covip*, and *Isvap* are in charge of assuring the financial consumer protection. This matter has become more and more important in Italian financial markets, attested by new laws, new regulations, and an increasing amount of supervision activities to Italian banks and financial institutions (Draghi, 2011).

In 2009, Bank of Italy issued a new regulation<sup>2</sup>, requiring new procedures for guaranteeing transparency and correctness to customers in banking business. Before,

---

<sup>2</sup> Banca d'Italia, *Istruzioni di vigilanza per le banche*, Circolare n. 229, Titolo X, *Trasparenza delle operazioni e dei servizi bancari*, dicembre 2009.

Consob<sup>3</sup> has required for transparency and adequacies for financial products. Specifically, these regulations request for correct procedures in new product development, in compensation strategies, as well as in complaint management systems. With reference to complaint handling, several mandatory requirements are given to banks in order to organize and control the complaint process.

Complaint management is so crucial for customer protection and financial stability, that, following other EU countries, Bank of Italy has also introduced the Alternative Dispute Resolution (ADS) system.

#### **4. How the Banking and Financial Arbiter (ABF) works in Italy**

Between consumers and suppliers of banking and financial services there is known to be a wider information gap than in other markets (S. Rutledge et al., 2010). The imbalance is due to the great complexity of services supplied, to high diversification, and to the customer's difficulties understanding and comparing products.

Under their traditional approach, monitoring authorities have always focused on the transparency and correctness of behaviour with customers in order to limit the legal and reputational risks to which intermediaries are exposed in conducting their activities (Goodhart C. et al., 1998). However, after the recent international financial crisis, it emerged that if the stability of the entire financial system is to be safeguarded, it is especially necessary to bolster public confidence in intermediaries (Smith D., 2010).

The conviction has taken hold that protecting banking and financial service customers should not be a matter merely of form but also of substance<sup>4</sup>. Therefore, whereas in the past transparency and correctness were considered essentially relevant to information to be imparted to the customer, in the current regulatory framework the structure of the services provided, commercial policies and the organisation of intermediaries are also considered very important (A. M. Tarantola, 2010). Indeed, it is felt that if financial intermediaries always behave in keeping with the rules of correctness and transparency in selling their services, this will help them establish long-term relations with their customers and thus contribute to the stability of fund-raising, profitability and permanence on the market. In this context ADR systems have been developed and legislated for banking in various countries.

Indeed, it very often occurs that the customer, who is in some way damaged due to non-regular or non-correct behaviour, cannot seek redress because the low value or nature of the dispute (in this regard, the term is "small claims") is not compatible with the times and costs of civil proceedings. This issue is particularly accentuated in the retail sector consisting of family businesses and small enterprises. It is precisely in this sector that there is an ever-increasing need to ensure that those who purchase banking and financial services are effectively protected.

---

<sup>3</sup> Consob, Il nuovo regolamento intermediari tra disciplina comunitaria e scelte nazionali, Documento di consultazione, luglio 2007.

<sup>4</sup> ISO COPOLCO, Workshop: *Restoring consumer confidence in global financial services – can standards help?* Resolutions: COPOLCO 8&9/2010 Bali 2010



In the various European countries there has been no single solution to the creation of ADR systems for the banking sector. With the exclusion of the UK, where decisions are binding for the intermediary, in other countries the decision taken by such bodies are merely recommendations. Although in most cases the authorities are of a private nature, there are also significant experiences of public organisations in Sweden, Spain, Luxemburg, Finland and the UK. Yet in these countries, the solutions adopted are variegated: the systems are at times managed by watchdog authorities directly (Spain, Luxemburg) or indirectly through an appropriate organisation (UK); in Sweden and Finland there is an independent public authority. Different solutions are also found as regards the levels of system operating costs and the binding nature (Spain, Finland, Sweden); in others, through taxes levied on the monitored institutes (UK, Luxemburg).

In Italy, as the “extra-judicial” system of dispute resolution for the banking sector the Bank of Italy has designated the Banking and Financial Arbiter (ABF)<sup>5</sup>. This authority, combining elements of a public and private nature, has been operative since 15 October 2009. The ABF was established with the aim of providing a simple, rapid and economical solution to disputes between customers and banks or finance companies when customers are unable to have their own requests satisfied by referring directly to the complaints offices of intermediaries.<sup>6</sup> The ABF can decide on disputes which concern transactions and banking and financial services<sup>7</sup>. All disputes concerning the verification of rights, obligations and faculties may be referred to the ABF, regardless of the level of the funds contested. However, if the customer claims a sum of money, the dispute comes within the competence of the ABF on condition that the claim does not exceed 100,000 euros.

Customers may access the ABF system even without recourse to a lawyer. The ABF may be accessed via the internet, with a certified e-mail or by traditional post, via fax or by hand. To refer to the ABF the customer must have already presented a written complaint to the intermediary to which the latter has not replied or has replied but in a way found unsatisfactory by the customer. The customer is required to contribute 20 euros to procedural expenses, which must be paid prior to lodging the appeal and is returned by the intermediary if the verdict of the Arbiter is favourable to the client. In the latter case, the intermediary must also pay a contribution to procedural expenses of 200 euros: failure to pay this sum is considered non-fulfilment of the ABF’s decision.

Three boards of arbitrators have been established in three different cities, each with a different geographical competence. So as to ensure impartiality and independence, each board consists of five members: the president and two members chosen by the Bank of Italy, a member appointed by associations of intermediaries, and a member appointed by associations representing consumers. The appeal of the banking customer is prepared by a technical secretariat, each board being supported by qualified staff from the Bank

---

<sup>5</sup> The ABF or, in full, *Arbitro Bancario Finanziario*, falls within the instruments which the Italian authorities have identified as optimal to achieve the objective of real customer protection. Indeed, recently “transparency of contractual conditions” and “correctness of customer relations” were expressly introduced among the aims that the authorities have to pursue. Cfr. Provisions concerning transparency of banking operations and services, 29 July 2009, Bank of Italy) and Legislative Decree no. 141 of 13.8.2010 which amended Art. 127 TUB (*Testo Unico Bancario*)

<sup>6</sup> The provisions on the ABF were updated in February 2010 after Legislative Decree no. 11 of 27 January 2010 came into force, transposing the EU Payment Services Directive.

<sup>7</sup> Controversies with banks and financial intermediaries concerning investment services and savings management services, which is the sphere of the banking Ombudsman, do not fall within the area of competence of the ABF.

of Italy. This is to ensure a rapid, economical resolution to the dispute, an impartial verdict and effective consumer protection.

The intermediary has the onus to cooperate actively in the proceedings, sending the documents required for scrutinising the appeal and making the decision by the deadlines established. As a disincentive to uncooperative attitudes on the part of financial intermediaries the board has the faculty to assess any omissive or delaying behaviour, and if the behaviour of the intermediary compromises the good outcome of the procedure, the board provides to publish details of “failed cooperation”.

The maximum time that the customer can wait between the proposition of the appeal and the verdict is about 105 days overall, with the exception of any periods of suspension. The board may reject the customer’s appeal, if it deems the reasons motivated by the customer as groundless or inadequately proved, if it fails to identify a violation attributable to the intermediary or, again, if it finds a error of competence or procedural faults. The pronouncement of the ABF does not have the typical effect of a sentence: it does not affect the juridical situations of the parties nor is it binding in itself. However, the intermediary has a strong incentive to spontaneously respect the arbiter’s pronouncement. Indeed, any default on his/her part is made public through the ABF and Bank of Italy’s websites as well as in two daily newspapers with a nationwide circulation.

The presence of an enforcement system is consistent with the principle of real consumer protection and has a twofold objective, both to ensure effectiveness in the extra-judicial system, and to favour dispute resolution prior to civil judgement. Even decisions to reject the appeal may contribute to the recovery of relations of confidence between intermediaries and customers, to the extent in which they acknowledge, in the matter examined, the correctness of the intermediary’s actions.

The activity undertaken by the ABF should also be helpful for the customer relations offices of banks. Provisions have been made for the decisions taken by the ABF’s Boards of Arbitrators to be made public via the ABF web site. The purpose of making decisions public is to disseminate the guidelines of the ABF and hence allow claims offices at intermediaries to rapidly and economically find suitable solutions during the complaints phase, upon the customer’s request. Only matters that are not satisfactorily dealt with by the claims offices may be submitted to the impartial judgement of the ABF.

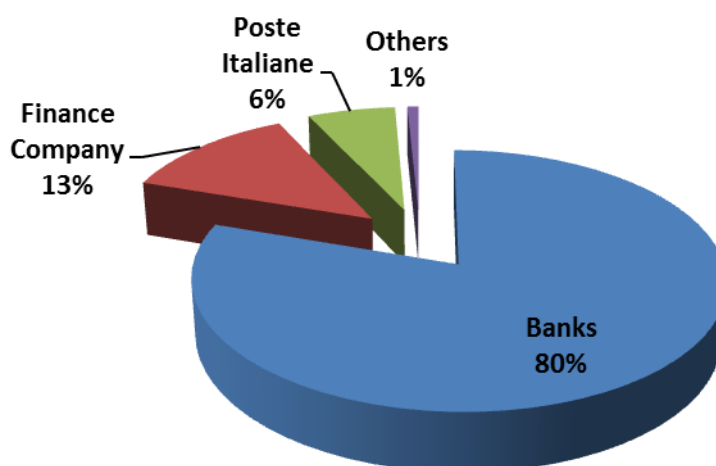
The filter effected by the claims office should, if it works well, contribute to limiting the number of appeals to the extra-judicial system and ensuring prompt satisfaction of customer rights and interests. From all the appeals made to the ABF it is possible to identify critical areas in relations with customers and any operational malfunctions on the part of the intermediaries.

## **5. The ABF’s activity**

By analysing the Bank of Italy data it can be ascertained whether the ABF has actually achieved its objectives. The data below refer to the first period of activity from 15 October 2009 to 31 December 2010, when there was an increasing trend of appeals lodged, proving that consumers appreciate the service. The distribution of petitions (table 1) by type of intermediary (banks, financial companies etc.) clearly shows that

most of the petitions concerned banks (80.2%). This is hardly surprising as banks supply most of the services that can be the subject of disputes.

**Table 1 - Petitions to ABS by type of intermediary.**



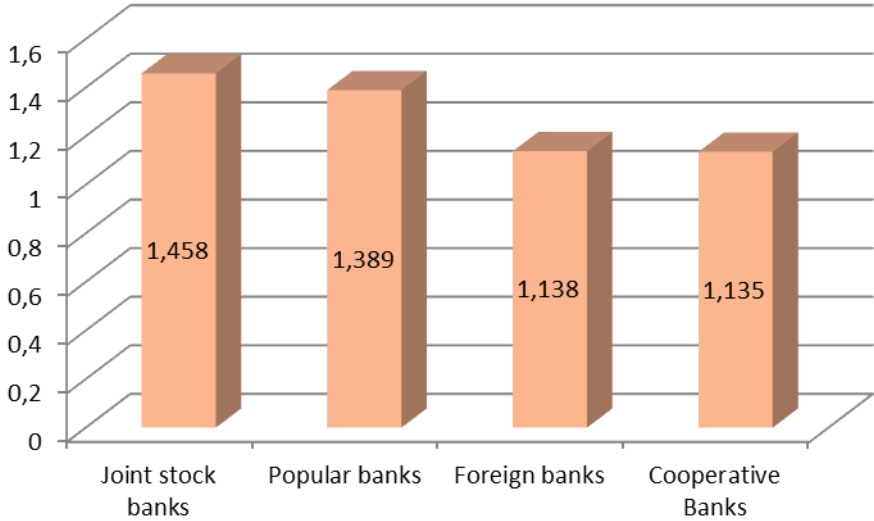
*Source: Our elaboration on data from Bank of Italy. (Referring period 10.15.2009 – 12.31.2010)*

From the data of the distribution of appeals by type of appellant (consumer or firm) emerges the overwhelming predominance of appeals lodged by individual consumers (75.8%); the scarce propensity of firms (24,2%) to appeal to the ABF system could stem from the limit of the value of submissible disputes (100,000 euro) and from awareness of an instrument that is still limited.

Distribution by subject of the petition shows that appeals concerning current accounts and mortgage loans are the most frequent (respectively 21.6% and 16% of the total); there is also a significant number of appeals concerning payment instruments and services (21.2% overall) and of notifications to the Interbank Alarm Centre and Credit Information Systems (8.8% overall).

In order to ascertain the behaviour of different type of banks (joint stock banks, cooperative banks, foreign banks, cooperative credit banks) in their attention to safeguarding the interests of retail customers, in table 2 we report the data of appeals received concerning each type of banking intermediary against the total loans to residents of Italy as a proxy of the activity undertaken. It emerges that joint stock banks have the greatest incidence of dissatisfied customers who have referred to the ABF, followed by popular banks, and by foreign banks, while cooperative banks accounting for the smallest number. This shows that it is precisely cooperative banks which best look after their retail customer relations.

**Table 2 - Number of petitions to ABS on loans to resident in Italy by type of banks.**



Source: *Our elaborations on data from Bank of Italy.*(Referring period 10.15.2009 – 12.31.2010).

In order to estimate the behaviour of banking intermediaries in their attention to safeguarding the interests of retail customers, in table 3 we report the data of appeals received concerning each individual banking intermediary (which had more than twenty appeals to the ABF). In the first column we indicate the number of appeals received (using Bank of Italy data); in the second column this figure is set against the total assets as a proxy of the activity undertaken (using balance sheets data); in the third column the number of appeals over total assets. The results show that there is a strong variance in the behaviour of intermediaries; some - even large - banks have a very low incidence of appeals received in relation to the volume of services supplied and hence prove very virtuous in customer relations, while other banks have a very high incidence of appeals, a sign of scant attention to the quality of service provided.

**Table 3 - Appeals by banks on total assets.**

	Appeals	Total Assets in 2010 (billion euro)	Appeals/Total Assets
Cassa di Risparmio di Firenze Spa	30	35	1,17
Banca Carige Spa	20	21,4	1,07
Cassa di risparmio del Veneto Spa	20	17,9	0,90
Unicredit Spa*	303	253	0,83
Banca popolare di Milano S.C.R.L.	43	30,2	0,70
Cassa di Risparmio di Parma e Piacenza Spa	57	35	0,61
Banca MPS Spa	274	156,2	0,57
Banca Antonveneta Spa	26	14,2	0,55
Intesa S. Paolo Spa	336	178,4	0,53
Deutsche bank Spa	33	17,2	0,52
Credito Emiliano Spa	39	18,8	0,48
BNL Spa	165	74,6	0,45
Banca popolare dell'Etruria e del Lazio S.C.	31	11	0,35
Banca popolare dell'Emilia Romagna S.C.R.L.-	21	7	0,33
UGF Banca Spa	35	9,7	0,28
Banca Fideuram Spa	41	9,6	0,23
Barclays Bank PLC	146	31,4	0,22
Banca popolare di Vicenza S.C.P.A	24	2,3	0,10
Banca popolare di Lodi Spa	33	3,1	0,09
Banca popolare di Bari S.C.P.A:	20	1,7	0,09
Banco di Napoli Spa	61	3,1	0,05
Finecobank Spa	43	0,7	0,02

Source: *Our elaborations on data from Bank of Italy (Referring period 10.15.2009 - 12.31.2010) and Balance Sheets 2010.*

*\*UniCredit Banca S.p.A., from the 2010, has absorbed Banca di Roma S.p.A., Banco di Sicilia S.p.A., UniCredit Corporate Banking S.p.A., UniCredit Private Banking S.p.A., UniCredit Family Financing Bank S.p.A..*

On the general level, also the decisions to reject appeals may contribute to the recovery of confidence between intermediaries and customers, to the extent that the ABF's favourable pronouncement for the intermediary proves the correctness of his/her actions. Thus, to appraise the quality of services provided by the various intermediaries and customer satisfaction, using Bank of Italy data for the results of the appeals, we compared in table 4 the number of negative outcomes for intermediaries with the total number of positive, not accepted, and negative outcomes (for intermediaries with more than 10 outcomes). The lower the number of negative outcomes, the more correct is the intermediary's behavior. In this respect, we found extensive variation in the behaviour of banks.

**Table 4 - Total Outcomes for intermediaries of petitions to ABS.**

	Total outcomes	Negative outcomes for interm.	Negative outcomes for Int./ Total out.
Agos-Ducato Spa	29	27	93%
Unicredit Corporate Banking Spa	12	11	92%
Banca Popolare di Bari S.C.P.A.	12	10	83%
Cassa di risparmio del Veneto Spa	11	9	82%
Poste Italiane Spa	81	66	81%
Cassa di Risparmio di Firenze Spa	20	16	80%
Banca Popolare dell'Etruria e del Lazio S.C.	16	12	75%
Hypo Alpe-Adria Bank Spa	11	8	73%
Santander Consumer Bank Spa	18	13	72%
Banca MPS Spa	159	114	72%
Banca Antonveneta Spa	17	12	71%
American express services UL	10	7	70%
Barclays Bank	71	49	69%
Cassa di Risparmio di Parma e Piacenza Spa	28	19	68%
BNL Spa	87	58	67%
Fiditalia Spa	17	11	65%
Consum.it Spa	11	7	64%
Intesa S. Paolo Spa	182	114	63%
Unicredit Banca di Roma Spa	75	46	61%
Banca Popolare di Lodi Spa	15	9	60%
IW Banca Spa	10	6	60%
Compass Spa	32	19	59%
UGF Banca Spa	22	13	59%
Banca 24 -7 Spa	12	7	58%
Unicredit Family Financing Bank Spa	40	23	58%
Fincobank Banca Fineco Spa	28	16	57%
Neos Finance Spa	14	8	57%
Citibank International P.L.C.	14	8	57%
Deutsche Bank Spa	16	9	56%
Banca Popolare di Novara Spa	13	7	54%
Banca Popolare di Milano S.C.R.L.	23	12	52%
Banca Fideuram Spa	25	13	52%
Banco di Sicilia Spa	12	6	50%
Banco di Napoli Spa	39	18	46%
Unicredit Spa	81	32	40%
Credito Emiliano Spa	23	9	39%
Banca Carige Spa	11	4	36%

Findomestic Banca Spa	10	3	30%
-----------------------	----	---	-----

Source: *Our elaborations on data from Bank of Italy (Referring period 10.15.2009 – 12.31.2010)*

Table 5 gives the overall outcomes of the proceedings, of which 39% had an unfavourable outcome for customers: these include appeals rejected upon their merits (31%), since the Board deemed the customer’s motivations groundless or inadequately proved, or appeals impossible to accept (8%), i.e. cases in which the appeal was rejected for reasons not connected with the merit of the case in question. As may be seen from the graph, in 61% of cases there was a favourable outcome for customers. The percentage includes a good number of proceedings – 34% – which were concluded with decisions to accept, wholly or in part, the arguments of the appellant. It also includes a significant proportion –27% – of cases of “cessation of the contended matter”, i.e. appeals that did not reach a substantive decision. In these cases the intermediary deemed it opportune to agree a solution with the customer so as to satisfy his/her complaints. This fact is very significant since it reveals the capacity of the ABF system to promote the intermediary’s cooperative behaviour even before the appeal has been settled. In some decisions the boards applied the provisions envisaged as part of the ABF that allow the board to supply guidelines to intermediaries so as to promote good relations with the customer.

**Table 5 - Overall outcomes of the proceedings to ABS**

Proce.gs	Outco.es	Outcomes of the proceedings					
		Favourable outcome for customers			Unfavourable outcome for customers		
		Accepted	Cessation* of the contended matter	Total	Rejected	Impossible to accept	Total
3.409	1.788	603	494	1.097	548	143	691

Source: *Our elaborations on data from Bank of Italy. (Referring period 10.15.2009 – 12.31.2010)*

Lastly and most importantly, in the time interval considered, as regards the post-decision taking phase, there were no cases of non-fulfilment. On the one hand, this confirms the dissuasive effect of the measure envisaged in the event of non-compliance (publication of the news) and, on the other, it testifies to a substantial sharing of the ABF’s guidelines and a positive attitude of the intermediaries towards the ABF’s decisions, with a view to recovering the customer’s confidence.

From an analysis of the data it emerges on the whole that the ABF has achieved the effect of protecting consumer interests: well-grounded “applications for justice” have been taken on board and have met with satisfaction either thanks to the intervention of a decision or, even before, due to the spontaneous acknowledgement by the intermediary of the client’s demands.

## 6. Conclusions and future research

The activity of the ABF, as an alternative dispute resolution body, assumes importance to achieve objectives of efficiency and competitiveness in the financial system: effective

dispute resolution mechanisms promote respect for principles of transparency and correctness in relations with customers; they boost the public's confidence in suppliers of banking and financial services; they are a useful safeguard for legal and reputational risks to the benefit of the stability of intermediaries and of the financial system overall. In this sense, establishing the ABF may be seen as a mark of renewed attention on the part of the legislator and the Bank of Italy to the theme of customer protection.

The first data currently available show that there has been concrete participation by intermediaries in the ABF's activity and that this system has actually permitted reductions in the times and costs of dispute resolution. The main limitation of the study is the availability of data due to the short period of time of implementation of ABF procedures. Further research will monitor the phenomenon through collecting other data. What is already clear, however, is that publicity given to decisions creates a fear on intermediaries and, by consequences, it generates a detrimental impact on the reputation of intermediaries. Moreover, we strongly agree on the importance of ABF in combination with excellent complaint handling, as well as compliant procedures in terms of transparency and correctness. Further studies, so, should be carried out to investigate whether the activity of the ABF combined with that of managing complaints and compliant procedures will have an effect on the bank reputation through the mediating role of bank's service quality perception.

## References

- Anolli, 2010, *La valutazione del rischio di reputazione*. In Anolli and Rajola (eds), Il rischio di reputazione e di non conformità: strumenti e metodi per la governance e la gestione operativa, Bancaria Editrice, Roma.
- Banca d'Italia, 2009, *Istruzioni di vigilanza per le banche*, Circolare n. 229, Titolo X, *Trasparenza delle operazioni e dei servizi bancari*. [http://www.bancaditalia.it/vigilanza/normativa/norm\\_bi/circ-reg/istrvig/circ\\_229\\_9agg](http://www.bancaditalia.it/vigilanza/normativa/norm_bi/circ-reg/istrvig/circ_229_9agg).
- Banca d'Italia, 2011, *Relazione sull'attività dell'Arbitro Bancario, n. 1, 2010*.
- Basel Committee on Banking Supervisor, 2009, *Enhancement to the Basel II framework*, <http://www.bis.org/publ/bcbs157.pdf>.
- Basel Committee on Banking Supervisor, 2010, *Basel III: International framework for liquidity risk measurement, standards and monitoring*, <http://www.bis.org/publ/bcbs188.pdf>.
- Bloemer, de Ruyter, Peeters, 1998. *Investigating drivers of bank loyalty: the complex relationship between image, service quality and satisfaction*. International Journal of Bank Marketing, Vol. 16, No.7, 276 - 286
- Boccuzzi, 2010. *I sistemi alternativi di risoluzione delle controversie nel settore bancario e finanziario: un'analisi comparata*, Quaderni di Ricerca Giuridica, No. 68, Banca d'Italia.
- Consob, 2007. *Il nuovo regolamento intermediari tra disciplina comunitaria e scelte nazionali*, Documento di consultazione, 20 luglio, [http://www.consob.it/main/aree/novita/consultazioni\\_emi\\_mer\\_MIFID\\_20070720.html](http://www.consob.it/main/aree/novita/consultazioni_emi_mer_MIFID_20070720.html).



- Cretu, Brodie, 2007. *The influence of brand image and company reputation where manufacturers market to small firms: A customer value perspective*. Industrial Marketing Management, Vol. 36. No. 2, 230–240.
- Draghi, 2011, *Considerazioni finali del Governatore. Assemblea Ordinaria dei partecipanti*, Banca d'Italia, 31 maggio, Roma, [http://www.bancaditalia.it/interventi/integov/2011/cf\\_10/cf10/cf10\\_considerazioni\\_finali.pdf](http://www.bancaditalia.it/interventi/integov/2011/cf_10/cf10/cf10_considerazioni_finali.pdf).
- Gabbi, 2003, *Definizione, misurazione e gestione del rischio reputazionale negli intermediari bancari*, Newfin, Università Bocconi, Milano.
- Goodhar, Hartmann, Llewellyn, Rosajas-Suarez, Weisbroa, 1998. *Financial Regulation: Why, How and Where Now?*, Routledge.
- Haynes, 2005, *The effective articulation of risk-based compliance in banks*, Journal of Banking Regulation, Vol. 6, No. 2. 146–162.
- ISO COPOLCO, Workshop: *Restoring consumer confidence in global financial services – can standards help?* Resolutions: COPOLCO 8&9/2010 Bali 2010.
- Johnston, 2001. *Linking compliant management to profit*. International Journal of Service Industry Management Volume: 12, No.1, 60-69.
- Levesque, McDougall, 1996. *Determinants of customer satisfaction in retail banking*, International Journal of Bank Marketing, Vol. 14, No 7, p. 12-20.
- Lewis and Booms, 1983, *The Marketing Aspects of Service Quality*. In Berry& Upah. (Eds.). *Emerging Perspectives on Service Marketing*. Chicago, IL: American Marketing, 99-107.
- Neef, 2005, *Managing Corporate Reputation and Risk*, Corporate Reputation Review, Vol. 8, No. 2.
- Parasuraman, Berry and Zeithaml, 1991. *Understanding Customer Expectations of Service*, Sloan Management Review, Spring, 39-48.
- Patarnello, 2010, *Il rischio reputazionale: caratteristiche e collocazione nel sistema dei rischi della banca*. In Anolli and Rajola (eds), *Il rischio di reputazione e di non conformità: strumenti e metodi per la governance e la gestione operativa*, Bancaria Editrice.
- Perry and De Fontnouvelle, 2005, *Measuring Reputational Risk: The Market Reaction to Operational Loss Announcements*, (October 30). Available at SSRN: <http://ssrn.com/abstract=861364>
- S. Rutledge, N. Annamalai, R Lester and R L Symonds: *Good practices for consumer protection and financial literacy in Europe and Central Asia: a diagnostic tool*; World Bank 2010, foreword.
- Smith , 2010. *The Age of Instability: The Global Financial Crisis and What Comes Next*, Profile Books, London.
- Tarantola, 2010. *La Banca d'Italia e la tutela del consumatore nei servizi bancari e finanziari*, Roma, 19 marzo.
- Walter, 2006, *Reputational Risk and Conflicts of Interest in Banking and Finance: The Evidence so Far* (December 2006). NYU Working Paper No. FIN-06-033. Available at SSRN: <http://ssrn.com/abstract=1300770>.

Wang, Lo, Hui, 2003. *The antecedents of service quality and product quality and their influences on bank reputation: evidence from the banking industry in China*. *Managing Service Quality*, Vol. 13. No 1, 72 – 83.

# **“IMPLICATIONS ON THE DESIGN AND METHODOLOGY OF A STRATEGIC PLANNING PROCESS IN A UNIVERSITY”**

**Margarida Mano**, Universityof Coimbra, mmano@ci.uc.pt

**Fernando Carvalho**, Universityof Coimbra, fc@fe.uc.pt

**Marisa Silva**, Universityof Coimbra, marisa@uc.pt

**Filipe Rocha**, Universityof Coimbra, filipe@uc.pt

## **Abstract**

This paper details the design of a change model in a University strategic planning process. The Planning cycle is seen as a structured approach to anticipate and lead the future at three levels: the corporate level (the university); the business level (the Faculties) and the functional level. Principles and methodology are discussed in the light of the new governance environment. Some of the main principles of the strategic model are the importance to widely involve internal and external stakeholders in the process; the need to align the three planning levels in a synchronized way and the presentation of continuous improvement tools. The leadership's strategic direction is highlighted and the double role of the Deans, at corporate and business level, is discussed. The model also integrates an approach to the evaluation system of the three strategic levels.

## **Key-words**

strategic planning process; vision-based planning; stakeholders model; HEIs; University

## 1. Introduction

“Vision without action is merely a dream.  
Action without vision just passes the time.  
Vision with action can change the world!”  
Joel Arthur Barker

Today, Higher Education Institutions, have to handle unexpected events and discontinuous change as they are part of an environment which is rapidly changing.

Besides being a great responsibility, leading a strategic planning process within this context is an enormous challenge: How do we plan, work and subsist in a tempestuous and fast-changing world? How do we handle those not living by the same rules as we do? How to identify key trends? How do we cope with risk and uncertainty? How do we select the adequate KPI? How do organisations survive with limited resources and a need for permanent change?

Although it requires an in-depth understanding of the organisation's working environment and of its stakeholders' needs and expectations, this process cannot be carried out just based on an organisation's history, nor on a simple projection of today's initiatives to the future. That would mean “*planning yesterday's campaigns to fight tomorrow's battles*” (MacNulty, 1997:2).

Some research findings within strategic decision-making in Universities (Rodríguez-Ponce, Pedraja-Rejas & Plitt, 2010; Rodríguez-Ponce & Pedraja-Rejas, 2009; Arata & Ponce, 2009) and organizational performance (Rodríguez-Ponce E, Pedraja-Rejas L., 2011) should be taken into account since they give important inputs to a design process of a strategic planning process in the specific context Higher Education Institutions.

## 2. A case study of a HEI: the University of Coimbra's experience

### 2.1 – The vision-based planning challenge

More than a statutory requirement or a good practice, planning is a structured approach to future anticipation.

Considering that:

- a) on the one hand, due to statutory definition, the University of Coimbra has an apparently stable mission that will be maintained until new legal or statutory revision; and
- b) on the other hand, planning processes starting from today (existing capabilities, core competencies, technologies and so forth) and working their way into the future tend to narrow the organisations' perspectives (MacNulty, 1997).

this process is based on a vision-based planning methodology, which aims to establish where the University of Coimbra wants to be in the future and to allocate resources to get there. It is considered that organisational success maybe reached starting from with a strategic vision which will later on be linked to reality.

The vision established for 2015 is "To be a reference institution, recognised as the Portuguese University holding the highest quality level." In the light of the new governance environment, as of March 2011, it is important to make known that this is a shared vision (across top and middle management and main stakeholders) and not a meaningless source of inspiration. This is what the University of Coimbra is and will be, but more than being future-oriented, it clarifies the genuine purpose of the organization positioning for 2015.

### 2.2 – Principles and critical factors to achieve success

To accomplish this and to pull the future back to the present, it is important to ensure:

- An effective understanding (actual and prospective) of our organisation and its environment in order to prepare the University of Coimbra for a future filled with change.
- An awareness of the needs and expectations of the University stakeholders, as well as their opinion about threats, opportunities, strengths and weaknesses.
- An understanding of the major driving forces for change and associated risks and opportunities. To accomplish this it needs to be developed as widely as possible and from as many different perspectives as possible, both inside and out, being aware of each individuality.
- The alignment of three planning levels in a synchronized way and the presentation of continuous improvement tools.
- A robust methodological framework to develop the strategic planning process and the ongoing process of implementation, monitoring and evaluation.

This would allow accomplishing a result where:

- All those who have greater responsibility in its implementation know the Plan and its underlying reasons, enabling the sharing of the University's objectives and the increase of a feeling of belonging.
- All those who will be influenced by the decisions' of the University feel involved in the planning process and the University will welcome their valuable guidelines within the fields where positive results have been achieved, as well as those where improvement is needed.
- The involvement of all the group with external interest may lead to their ongoing support and their partaking in building the University of Coimbra's future.
- Involving all the University's management levels in the planning process will allow it to follow its strategic purpose, even in times of leadership change, thus contributing towards greater governance stability.

The representation of the developed framework is as follows:

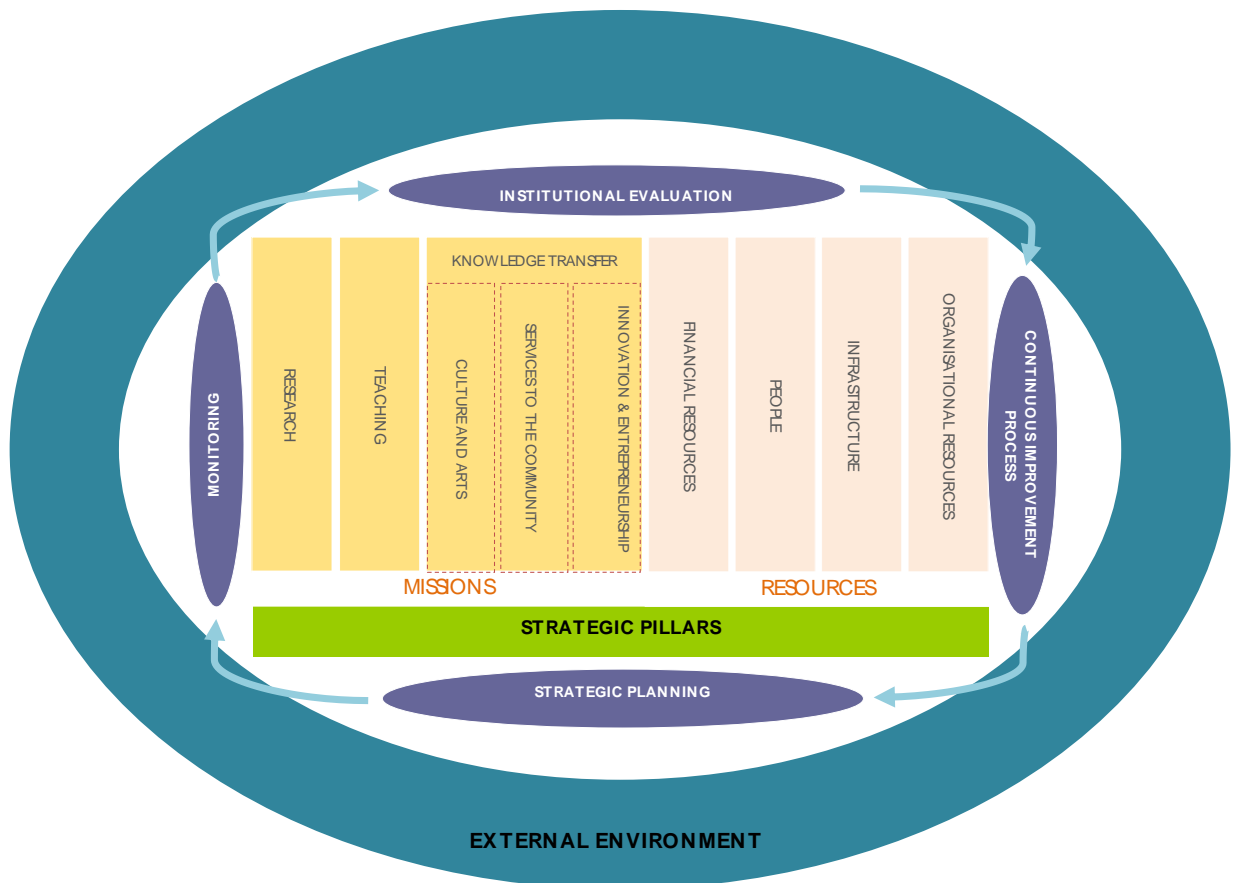


Fig.1 – Strategic Definition Framework

The strategy for the University of Coimbra for 2011-2015 was reached through an open and transparent process (Fig.1), concerned about engagement (Fig.2) and focused on

maximising the quality of teaching and research and on getting the most out of knowledge transfer.



Fig.2 - Who, How and When stakeholders are involved in the strategic planning process

### 2.3 – The involvement process

Involvement and commitment were the main concerns in order to get a real picture of the way the University of Coimbra would like to ensue, being the reason why the work has been based on a stakeholders' model. A power and influence analysis has been accomplished and the following interested parties have been considered as critical in order to be involved in the strategic planning process:



Fig. 3 Internal and External Stakeholders directly involved on the Strategic Planning Process 2011-2015

According namely to their experience, context or their responsibilities at the moment, decision-makers not only give different levels of importance to external or internal sources of information but also have different perspectives of how to use it.

As mentioned by *Mano & Lourenço (2010:6)*, “*In the same way that operational decision-makers have often a clear understanding of the local activity dynamics, top decision-makers should have a greater and more encompassing comprehension of the organization’s global activity and its strategic directions.*”

So, the Planning cycle has been structured in order to anticipate and lead the future at three levels: the corporate level (the University); the business level (the Faculties) and the functional level.

There was a special concern about process cascades down through the organisation and the alignment of the three planning levels in a synchronized way.

Although with different methodologies defined, concerning namely the type of stakeholder and the number of participants, in general workshops have been structured in order to produce an output with a list of key actions, related KPIs, execution conditions and their strategic added value.

- Workshops with 75 academics working in thematic groups, generating 143 ideas, of which 62 have been chosen as the most important, by a general voting system. Top 10 were presented to the plenary. Besides, 17 additional suggestions were received.
- A one day event with 30 students’ representatives, structured into 5 themes with 3 main actions/each, all of them presented to the plenary.
- Three initiatives aiming to include research and development stakeholder’s ideas, counting with 56 participants from 24 R&D centers, 5 associated Labs and 16 non-profit research organisations.
- Initiatives with workers represented by middle managers and members with team responsibility (total of 52), structured in 8 working groups, specially focused on resources’ planning. Each participant was to create working dynamics with their own team in order to obtain inputs for the group work, this way covering all staff of the University.
- Interviews and a one day event with the main regional and national employers.
- Personal interviews with other University General Board Presidents.
- Regular meetings with top managers including the University General Board President, the Rector’s Team and Faculties and Research Units main Directors.



### **3. The Balanced Scorecard approach**

Enhancing resources-energies-motivations alignment in order to trail the main strategy, Balanced Scorecard (BSC) supports goals definition process and simplifies the equilibrium within several improvement activities concerning stakeholders' satisfaction.

This methodology allows either to easily communicate with interested parties or to implement initiatives on a synergetic way, regularly monitoring their development and never losing the main focus.

One or more KPIs have been associated to each strategic goal, representing the organisational performance aspiration concerning learning and development, organisational, financial and society perspectives.

### **4. The role of evaluation on strategic planning ongoing process**

In order to close the Plan-Do-Check-Act cycle, an integrated performance management system is vital and may provide the "glue" for organisational understanding, transparency, and continuous improvement.

As mentioned in the Strategic Plan of The University of Manchester (2009:25), "*These formal accountability processes linked to annual cycles of planning, implementation, reporting, performance evaluation and re-planning have been developed in the University both to assist the Board in discharging its onerous responsibilities and to facilitate quality improvement at all levels of the University.*" It also refers to some other ways that this kind of accountability structures (and connected processes) may strengthen the University by: a) safeguarding institutional autonomy through exemplary internal processes of planning and accountability, b) allowing to replace several ad hoc requests for systematic and timely reporting processes and c) promoting collegiality, since stakeholders involvement in evaluation processes empowers the University Community.

In the evaluation domain, some perspectives have been structured:

- a) During the strategic planning design process:
  - Evaluation of main achievements and contributions to the process (re)design during the overall process, by rectorate and top management team members.
  - Satisfaction evaluation by participants in each initiative developed;
- b) A two-step approval: firstly, by the Rector, concluding the main design process and secondly, by the University General Board.

c) An evaluation framework with two main aims:

- To ensure the plan implementation at a strategic, tactical and operational level.
- To guarantee a situational analysis step throughout the strategic planning and continuous improvement process. Although the vision to change much during a four year period is not expected, a regular assessment/revision process should be defined in order to guarantee it is inspiring, relevant and future oriented. We consider useful to regularly evaluate, namely: Where are we in terms of the plan and the vision? What are our stakeholders' today's and future needs? Are they different from what we considered on the strategic planning approval date? What information do we get from our assessment data? What are we doing well and what can we improve? Which are the trends, opportunities and threats at the time? Is the plan aligned with actual reality? Is our vision still future oriented?

With this framework is intended to keep all those involved constantly aware of change and of strategic planning as an ongoing process.

## REFERENCES

- Arata A., Barros V., et. al (2009) *Desafíos y Perspectivas de La Dirección Estratégica de Las Instituciones Universitarias*.
- Arata A.; Rodríguez-Ponce E. (2009) (Eds). *Desafíos y perspectivas de la dirección estratégica de las instituciones universitarias*. Ediciones CNA Chile. 549 pp. ISBN 978-956-8910-00-6
- The University of Manchester (2009) *Advancing The Manchester 2015 Agenda, The Strategic Plan of The University of Manchester. 2009/2010 Edition. Manchester*.
- Mano M., Lourenço R. (2009). Key Performance Indicators in Higher Education Institutions – Average Time of Completion a Degree”. *Conference Proceedings, 13<sup>th</sup> Toulon-Verona Conference “Organizational Excellence in Service”, 2<sup>nd</sup>-4<sup>th</sup> September 2010, A.2. Ed. Faculdade de Economia da Universidade de Coimbra*. ISBN: 978-972-9344-04-6
- MacNulty C., Heinz K. (1997). *Vision-Based Planning: Theory & Practice*. Effective Scenario Planning- IIR / Strategic Leadership Forum, October 27th-29th. Atlanta, Georgia. Consulted in May 2011 on url: <http://www.exploit-the-future.com>.
- Rodríguez-Ponce E, Pedraja-Rejas L. (2011). *Knowledge Management And Organizational Performance In Universities: The Role Of Top Management Teams. 2<sup>nd</sup> Workshop on Top Management Teams & Business Strategy Research. 31<sup>st</sup> March – 1<sup>st</sup> April. Istanbul, Turkey*.
- Rodríguez-Ponce E., Pedraja-Rejas L. (2009) *Dirección Estratégica En Universidad: Un Estudio Empírico En Instituciones De Iberoamérica*.
- Rodríguez-Ponce E., Pedraja-Rejas L., González Plitt M. Elena (2010) *Strategic Decision Making Processes In Universities*.

**FROM PROSUMERS TO PERSUMERS:  
THE IMPLEMENTATION OF A REAL INVOLVING (SERVICES) MARKETING**

**Alberto Marino**  
Full Professor of Marketing,  
Università degli Studi di Bergamo (Italy),  
Facoltà di Economia,  
Dipartimento di Economia Aziendale,  
Via dei Caniana, 2, 24127 Bergamo,  
Tel.: +39 035-2052509,  
E-Mail: [alberto.marino@unibg.it](mailto:alberto.marino@unibg.it).

**Abstract**

The theoretical and managerial debate about (services) Marketing has pointed out that the traditional models are not able to take into consideration the evolutions that have characterized the customers (and the firms).

While in the past the customer was defined as a mere prosumer (that is, his intervention was needed during services provision), in this paper we suggest that companies should turn to consider their customers as persumers. This term indicates a person, who is not interested only in mere consumption but who seeks routes which lead to self-actualization and self-fulfillment. A new Marketing approach is then required for the services companies and we define it as “new involving Marketing”. The starting point of this perspective is the deep understanding of the values that are important for the person-persumer in order to activate offerings based on these values to be exchanged with the monetary value (price paid by the persumer).

The aim of this paper is to articulate this new perspective and to emphasize the practical implications for the Marketing of companies.

**Keywords**

Services Marketing, customer involvement, value and personal values, experience.

## **1. Premises**

In the current scenario, characterized by severe disruptions, traditional (services) Marketing approaches seem not to be able to manage the increasing degree of complexity. Most importantly the roles themselves of the firms and of the customers are evolving toward a new paradigm. This phenomenon is related to several factors, such as the development of the ICT and of the social network, the increasing level of multimedia communication and so on. Even the (services) Marketing perspective viewing customers as prosumers (consumers with an active intervention during the service delivery process) seems not to be able to capture the mentioned new role of the customers. Hence a new approach is required, with its roots in a total, real involvement of the customer within the firm and of the firm within the customer. In the following paragraphs, the main contents of the new customer-involving Marketing are introduced and a 10-step process for the implementation of this approach is presented and discussed.

## **2. The main concepts of the new customer-involving Marketing**

The new Marketing approach we suggest in this work is defined as “customer-involving” not just to indicate a generic emotional involvement of the customer, linked to well-identified experiences. On the contrary it refers to the fact that both the firm and the customer contribute to generate value in a never-ending process. This deep involvement is the result of a set of combinations of resources, including several intangible dimensions. In particular, the brand itself is the results of a set of value combinations and it assumes the appearance of a Total Systemic Branding.

On this point, it is necessary to remark that the new customer-involvement Marketing is more advanced than other modern Marketing approaches (such as for example the experiential approach by Schmitt, 1999) since it includes more dimensions. Using a geometrical metaphor we can state that our approach resembles a polyhedral figure instead of a plane figure, since it is able to take into consideration all the multidimensional key elements, with particular reference to relational dimensions. Some Anglo-Saxon authors have recently discussed about this topic, suggesting that the so-called CRM (customer relationship Marketing) should be substituted with a more comprehensive CEM (customer experience management). According to this perspective, multisensorial instruments can be for example used by retailers to stimulate consumers’ senses.

On the contrary we suggest an approach that creates frequent and solid links between consumers’ experiential and sensorial dimensions and the foundations of the Systemic Marketing approach (Golinelli, 2008), in order to control consistently all the fundamental elements:

- *The systemic-relational communication*, which goes well beyond the traditional integrated communication which is not able to arise deep involvement. To be successful on this point it is necessary for the firm to have a clear knowledge about the

constructs that are important for the customers, who should be interpreted as persons with their own values. These constructs include the consumer's imaginary, which determines the actual choices and behaviors.

- *Total Systemic Branding*, which derives from the application of the systemic thinking to the governance and management of the brand to generate the intended involvement; it is often based on a careful use of “multitouch” elements.
- *Multimediality and digital Marketing strategies*, including the exchange of digital contents between the customers and between the consumers and the firm.

Drawing on these key foundations, the new customer-involving Marketing requires the activation of an exchange of “values for values” between the firm and the persumer, who becomes a co-valuer.

Following this discussion we can state that the new customer-involving Marketing is more advanced than the experiential perspective, as we can see from the points summarized in the following table:

<b>Traditional Marketing approaches (including experiential Marketing)</b>	<b>New Customer-Involving Marketing</b>
Generic communication	Systemic-Relational Communication
Identity and reputation	Total Systemic Branding
Co-branding	Co-valuing
Web sites	Systemic approach to the Digital Marketing
Consumers (Prosumers)	Persumers

Despite the difficulties of conceptualizing this rapidly evolving New Customer-Involving Marketing, we can think to this new perspective as a higher-order mix of some other traditional and modern concepts and models, including:

- CRM, Customer Relationship Marketing (which goes beyond the mere ICT infrastructures and softwares)
- CEM, Customer Experience Marketing
- CIB, Customer Involving Branding (resulting from a Total Systemic Branding)
- CVM, Customer value Management
- CM, Customer Management (not only with reference to the persumer but also to distributors, intermediate clients, business-to-business customers in general and so on).

None of these approaches, if taken singularly, is able to guarantee a total involvement of the customer. We can therefore conclude that we can forecast further evolutions of the New Customer-Involving Marketing, based not on rationality but on higher-level combinations of intangible resources, elements and instruments.

### **A 10-step process to implement the new customer-involvement approach**

It is possible to design a sort of process (or iter) of the mentioned new Marketing approach, based on 10 steps (not necessarily to be followed always in the same order) needed to generate a valuable, involving proposition:

- 1) Systemic thinking linked to the creation of external value (EW) which comes from the relations of the firms with the clients and with the market and not from the internal efficiency of the firm;
- 2) Governance model (related to the external valuing);
- 3) The firm seen as a box of products and services;
- 4) Pyramiding and perimetering;
- 5) Profiling e Focusing;
- 6) Perception e Perceptioning;
- 7) Mapping ;
- 8) Pay Off;
- 9) CAP (Core, Attributes, Plus) e FAB (Features, Advantages, Benefits);
- 10) Systemic Propositioning, together with Total Systemic Offering and Total Systemic Branding.

In general the ten steps or foundations listed above are completely different from the traditional assumptions and instruments. In particular, the most traditional approaches rely on the concept of rigid segmentation of the given market. The intermediate approaches have added a deeper treatment of the positioning and of the profiling, but nonetheless they ignore some other aspects.

It is now interesting to make some reflections about the point number 9, including CAP (Core, Attributes, Plus) e FAB (Features, Advantages, Benefits).

The acronym CAP summarizes the following fundamental issues:

**Core:** it is necessary to focus on the core elements related to the core competences of the firm, the connections, the benchmarking and the mental categorizations operated by customers;

**Attributes:** the traditional concept of product should be enlarged to include a whole set of attributes that customers regard as extremely important to them. These attributes can be related to: quality, uniqueness, emotions, reputation, symbols, and so on;

**Plus:** this term underlines the need to anticipate the competitors in terms of time and quality of the offering.

As regards the acronym FAB, the following issues are covered:

**Features,** which should not be interpreted as mere organoleptic properties of the products;

**Advantages:** in terms of comparative satisfaction for the customers;

**Benefits:** for the customers, in terms of constructs relevant to them.

By following the 10 steps mentioned above and by applying the acronyms CAP and FAB, it is then possible to introduce on the market a real Total Systemic Offering, which is able to leverage on the power of Total Systemic Branding.

#### 4. Conclusions

This paper has introduced a new articulated Marketing approach, defined as a real customer-involving Marketing. In particular some key points and conclusions must be underlined:

- The consumers are at the core of this new Marketing approach and their involvement is required to create value;
- The real customer-involving Marketing draws on the Systemic Marketing, which is not just about the integration of all the components within a company: before that, it emphasises that all the relevant factors should be present ab-inizio;
- The whole approach aims at the creation of value for the clients, which results in a higher “external value” for the company;
- The company should focus on a number of issues at the same time, as the 10-step process to implement the new customer-involvement approach points out.

At the same time the most frequent mistakes in the Marketing approach of some companies can be described:

- some firms cannot succeed in creating value for their clients;
- or they are too focused on limited, operational mixes;
- or they just work on product characteristics instead of consumers’ constructs;
- some other can identify only a portion of the issues involved; as a result, their impact on the market will be less powerful;
- sometimes managers think that the experiential Marketing approach can be sufficient to involve customers.



## References

Barile Sergio 2009. Management sistemico vitale. Vol. 1: Decidere in contesti complessi, Giappichelli, Torino.

Beer S. (1972), Brain of the firm, The Penguin Press, London.

Beer, S. (1984), The viable system model: Its provenance, development, methodology and pathology, Journal of the operational research society, Vol. 35 No. 1, pp. 7-25.

Birley S. (1985), The Role of Networks in the Entrepreneurial Process, Journal of Business Venturing, Vol. 1 No. 1, pp. 107-17.

Brondoni Silvio M. 2004, Patrimonio di marca e risorse immateriali d'impresa, Giappichelli, Torino.

Golinelli Gaetano M. 2008, L'approccio sistemico al governo dell'impresa. Vol. II. Verso la scientificazione dell'azione di governo, Cedam, Padova.

Jacobsen Marie-Louise 2009. The Art of Retail Buying: An Introduction to Best Practices from the Industry, Wiley, Singapore.

Levy Michael, Weitz Barton 2008. Retailing Management, McGraw-Hill, New York.

Lugli Gianpiero 2007, Marketing channel. La creazione di valore nella distribuzione specializzata, Utet, Torino.

Lugli Gianpiero, Pellegrini Luca 2002, Marketing distributivo, Utet, Torino.

Marino Alberto 2004, Trade Marketing: nuova prospettiva delle relazioni di filiera, C.E.L.S.B., Bergamo.

Marino Alberto 2006, Marketing Sistemico e Valorizzazione esterna d'impresa, Cedam, Padova.

Pastore Alberto, Vernuccio Maria 2008, Impresa e comunicazione. Principi e strumenti per il management, Seconda Edizione, Apogeo, Milano.

Schmitt, Bernd H. (1999a), Experiential Marketing: How to Get Customers to Sense, Feel, Think, Act, Relate to Your Company and Brands, New York: The Free Press.

Von Bertalanffy L. (1956), General System: Yearbook of the Society for advancement of General System Theory.

Von Bertalanffy L. (1968), General system theory, George Braziller, New York.

**Public-private partnerships  
in the Italian healthcare sector: the analysis of organizational forms**

Marcello Martinez  
Full Professor of Organization Studies  
Seconda Università degli Studi di Napoli  
marcello.martinez@unina2.it

Mario Pezzillo Iacono  
Assistant Professor of Organization Studies  
Seconda Università degli Studi di Napoli  
mario.pezzilloiacono@unina2.it

Caterina Galdiero<sup>1</sup>  
Postdoc Fellow  
Seconda Università degli Studi di Napoli  
caterina.galdiero@unina.it

Riccardo Mercurio  
Full Professor of Organization Studies  
Università degli Studi di Napoli Federico II  
mercurio@unina.it

---

<sup>1</sup> Correspondent author

## **Abstract**

This work aims to analyze a specific phenomenon of innovation in health management: public-private partnerships within the Italian healthcare sector.

The object of the study is to measure the degree of organizational maturity (OM) of the forms of public-private partnerships (PPP) analyzing and measuring key managerial processes, in terms of innovation in meeting the partnership's goals/targets.

The analysis is based on the identification of key processes relevant to the management of partnerships, to check which systems of governance are able to meet different stakeholder interests. We therefore built a conceptual standard for analysis of the OM through a field survey based on visits, participant observation, analysis of documents and semi-structured interviews with the management.

**Key words:** organizational maturity, public private partnerships, healthcare, key managerial processes, governance

## 1. Introduction

Public Private Partnerships (PPPs) have emerged as one of the major approaches for delivering infrastructure projects in recent years. If properly formulated and managed, a PPP can provide a number of benefits to the public sector such as: alleviating the financial burden on the public sector due to rising infrastructure development costs; allowing risks to be transferred from the public to the private sector; and increasing the “value for money” spent for infrastructure services by providing more efficient, lower cost, and reliable services.

However, the experience of the public sector with PPPs has not always been positive. Many PPP projects are either held up or terminated due to: wide gaps between public and private sector expectations; lack of clear government objectives and commitment; complex decision making; poorly defined sector policies; inadequate legal/regulatory frameworks; poor risk management; low credibility of government policies; inadequate domestic capital markets; lack of mechanisms to attract long-term finance from private sources at affordable rates; poor transparency; and lack of competition. Despite numerous negative experiences, many governments (e.g., the UK and Australia) continue to view PPPs as one of the key strategies for delivering public services and infrastructure. Therefore, understanding and enhancing knowledge of PPPs continue to be a matter of significance and importance.

In 1992 in the Italian public sector a thoughtful transformation. In this context rose the need to introduce new tools and models of service management in order to better combine the quality of healthcare with the costs containment (Anselmi, 1997, 2003; Borgonovi 2000, 2002; Longo, 2006; Anessi Pessina, 2007).

Moreover, in recent years, we attend in the healthcare to activities of outsourcing, partnerships with private entities for the development of investments (creation of foundations, partnership private public etc.) (Amatucci, et al., 2006, 2007, Cappellaro, Marsilio, 2007, Cuccurullo, Tommasetti, 2002). In light of this, this work aims to analyse a specific phenomenon of innovation in the health management: the PPPs in the Italian healthcare sector (Cepiku 2005, Meneguzzo 1995, 1997). The object of the study is to measure the degree of organizational maturity (OM) of PPPs analysing and measuring key managerial processes, in terms of innovation in meeting the partnership's goals. The analysis bases on the identification of key processes relevant to the management of partnerships and of procedures adopted for their control, to check which specific systems of governance and management control are able to meet the different interests of public and private stakeholders. In order to this, we build a conceptual model of analysis of the maturity of the organizational governance and control systems through a field survey based on visits, participant observation, analysis documents and semi-structured interviews to the PPPs' management.

## 2. Public-Private Partnership

The literature has addressed the term partnership from a variety of perspectives, including references to partnerships as contracting-out (Johnston and Romzek, 2005), NGO-government alliances (Brinkerhoff and Brinkerhoff, 2002), and community-local government cooperation (Krishna, 2003; World Bank, 2005), just to name a few. Contributing to the analytic related to PPPs is the multiplicity of arguments, some based on empirical study and others promoting partnership based on normative agendas, making it difficult to sort the rhetoric from the reality (Brinkerhoff, 2002; Wettenhall, 2003). For example, Koppenjan (2005: p. 137) defines a PPP as ‘a form of structured cooperation between public and private partners in the planning/construction and/or exploitation of infrastructural facilities in which they share or reallocate risks, costs, benefits, resources and responsibilities.’ This definition is echoed in that of Grimsey and Lewis (2007; p. 2): ‘PPPs can be defined as arrangements whereby private parties participate in, or provide support for,

the provision of infrastructure, and a PPP project results in a contract for a private entity to deliver public infrastructure-based services.<sup>7</sup>

Such function-specific definitions are less than helpful in delineating the key features of PPPs. Bovaird's (2004: p. 200) definition is a step in the right direction: PPPs are 'working arrangements based on a mutual commitment (over and above that implied in any contract) between a public sector organization with any other organization outside the public sector.' This conceptualization highlights the importance not simply of cross-sectoral engagement, but of shared dedication to achieve some kind of joint outcome, and of going 'above and beyond' the principal-agent dynamic of a contractual relationship. Thus, partnership implies a cross-sectoral relationship where the actors involved bring both commitment and competence to the table, thereby creating the classic synergy (the whole being more than the sum of the parts).

The approach that Brinkerhoff (2002) takes to analyzing partnership employs these two concepts to develop a nuanced definition that, rather than categorically determining what is or is not a partnership, recognizes partnership as a relative phenomenon in which a given PPP may exhibit more or less of partnership's defining elements. These elements are: mutuality and organization identity. Mutuality encompasses the commitment to a shared goal and the extent to which partners operate within the spirit of shared control and responsibility. Organization identity captures the rationale for selecting particular partners according to their distinctive competences; capitalizing on and maintaining them constitute the basis of partnership's value-added.

More specifically, mutuality refers to mutual dependence, and entails the respective rights and responsibilities of each actor vis-à-vis the others. Embedded in mutuality is a joint commitment to the partnership's goals, and their alignment to be consistent with each partner organization's mission and objectives. Mutuality also means some degree of equality in decision-making, as opposed to domination of one or more partners. All partners have an opportunity to influence their shared goals, processes, outcomes, and evaluation.

Organization identity captures the distinctive competence and capabilities of the individual partner organizations. Organization identity can be examined at two levels. First, an individual organization has its own mission, values, and identified constituencies to which it is accountable and responsive. The maintenance of organization identity is the extent to which an organization remains consistent and committed to its mission, core values, and constituencies. Second, from a broader institutional view, organization identity also refers to the maintenance of characteristics—particularly comparative advantages—reflective of the sector or organizational type from which the partner organization originates. A primary driver for partnerships is accessing key resources needed to reach objectives, but lacking or insufficient within one actor's individual reserves. Such assets can entail the hard resources of money and materials, as well as important soft resources, such as managerial and technical skills, information, contacts, and credibility/legitimacy.

Based on these two dimensions, PPPs, in practical terms, can be defined as a matter of degree. The ideal type would maximize organization identity and mutuality, including equality of decision making. Since support and respect for the identity of partners inevitably require compromises, and as exact equality of power in decision making is unrealistic, partnership becomes a relative practice. Nevertheless, these dimensions can be used to contrast partnership (high organization identity, high mutuality) from other types of inter-organizational relationships, such as contracting (high organization identity, low mutuality), extension (low organization identity, low mutuality), and cooptation or gradual absorption (low organization identity, high mutuality) (Brinkerhoff, 2002a).

A purely public approach may cause problems such as slow and ineffective decision-making, inefficient organizational and institutional frameworks, and lack of competition and efficiency, which are collectively known as government failure. On the other hand, a purely private approach

may cause problems such as inequalities in the distribution of infrastructure services, an example of what is known as market failure. To overcome both government failure and market failure, a Public-Private Partnership approach can incorporate the strengths of both the public and private sector.

## **2.2 Public-Private collaborations in healthcare - “experimentation based management”**

In Italy, by ‘experimentation based management’ we intend a vast range of forms of collaboration among public and private subjects. In particular, one can trace the types of experimentations to different variances of contractual relations: joint stock or limited liability companies, or consortiums; participating interests; partnership association agreements; building permit and management agreements; construction permit and management agreements with ‘project finance’; sponsorship agreement.

The discipline of reference has evolved somewhat since 1991 with article 4 paragraph 6, Law 412 of 1991, and with article 10 of Legislative Decree n.229 of 19th June 1999 that modified article 9 Bis of Legislative Decree n.502 30th December 1992 (Cuccurullo and Tommasetti 2002, Faillace 2005, Anselmi 1997, Amatucci, Lecci 2006, ASSR 2004).

Neither the above quoted article 4 nor the subsequent article 9.Bis of Decree n.502 -1992 have in any case given a precise definition to ‘experimentation’; but one can underline that they are instruments aimed at tracing more efficient governance standards for healthcare expenditure and at improving the quality of assistance <sup>1</sup>.

The phenomenon takes on a provisional form type; in fact with the Government and the Regional district offices, besides acknowledging the power of authorizing these mixed forms they also attributed to the power of ‘institutionalizing’, confirming the experience or putting an end to it depending on the results of the experimentations at the end of the first three yearly period.

Nine years after the first legislative act/decreed, a change came about in 2001<sup>2</sup> when a more pragmatic solution was reached by which the Regional district offices were given the power to adopt experimentation programmes and put forward experimentation plans that were more adapt and more in line with their health plan.

The public-private joint capital partnership is the form used most and has particular and specific characteristics related to some economic and juridical evaluations. Theoretically this form enables/facilitates promotion of all those advantages typical of a private entrepreneur and with the necessary flexibility both in financial resource recruitment, personnel management, assets administration and procurement processes.

Amongst the forms of joint partnerships those mainly adopted are joint stock companies and limited liability companies.

### **3. Work study objectives and methodology**

The study stems from Agensas’ need to define a methodological appraisal that safeguards the differences between the various experimentations but at the same time permits/consents comparison, so as to favour the final evaluation of the Regional district offices.

The public-private partnerships involved in the field survey are: Centro Ortopedico di Quadrante spA -Ospedale Madonna del Popolo di Omegna- Omegna (VB), Amos Srl – Cuneo, Istituto Codivilla Putti sPA – Cortina (BL), Ospedale Riabilitativo di Alta Specializzazione spa – Motta di Livenza (TV), IRST srl – Meldola (FC), Montecatone spa – Imola (BO), Nuovo Ospedale Civile – Sassuolo (MO), ISMETT Srl – Palermo, Proserius Tiberino spa – Umbertide (PG), Montefeltro

Salute srl – Sassocorvaro (PU). Jointly with the mixed companies we visited the following Region District Offices – Sicily, Veneto, Piemonte, Emilia Romagna. Table 1 shows the main characteristics of the cases analysed. The ten cases chosen for this study are representative of public-private partnerships started up within the experimentation based management <sup>3</sup>. On the assumption that the regulations/provisions for experimentation based management lay down not only constant care in performance quality but also and above all a formal system to assure that the private subjects respect the regulations, the rules and the orders deriving from the public planning (Etzioni, 1964), that the hospital structures with a high degree of organizational maturity correspond to formal systems and technical and bureaucratic management structures (Scott, 1992). To assess the degree of organizational maturity the work group elaborated performance parameters for the presence and degree of reliability and accountability of the mechanisms adopted to manage for the governance and regulation of clinical and managerial processes (Thompson, 1967).

When assessing organizational maturity one of the most critical decisions is in the choice of parameters to be used, whether it should be on the results or the processes or the structures (Donabedian, 1966; Suchman, 1967; Scott, 1977). Process measurement permits, more so than others, a more thorough assessment of quality and work performance procedures in the organizations studied. Thus, to examine the public-private partnerships we chose process measurements that highlight the quality of the activities chosen (Suchman, 1967) and thence measured the innovation capacity of the managerial and organizational systems from the experimentation based managements studied.

The processes studied are ‘relevant’ ones, where the degree of relevance is to be intended as the importance assigned to specific processes in defining an innovative managerial structure within the institutional and regulatory framework that counter-distinguishes experimentation based managements under the juridical form of partnerships. The assessment rating scale adopted for the degree of relevance is the following:

- Low relevance: the process is governed by regulations and prescriptions predetermined by the regulator and institutional system and is not susceptible to significant innovation;
- Average relevance: the process shows some chance of innovation in its management and control methods/procedures on the part of the partnership
- High relevance: the process is potentially manageable and controllable according to specific innovative and original methods/procedures of a single partnership

Once the relevance processes had been pinpointed the degree of ‘objective’ organizational maturity was assessed, meaning the level of realization and accountability with which a specific process should be managed and formalized within the company and organization structure/framework of the experimentation based management.

The presence of an adequate level of organizational maturity is considered an important mechanism in order to increase the control capacity of the Regional regulatory system, the local health authority and Agenas itself (Zucker, 1977). In fact the availability of systems, tools and documentable, controlled and standardized procedures, allows a control that is not hierarchical (considered expensive and often subjective) but is a compliance control (Martinez, 2009). This methodological solution, which is the result of a development process and adequately organized innovation, permits that both the differences of each experimentation are safeguarded, and that the latter will thus decide to avail itself of tools (mechanisms, organs and procedures) considered more in keeping with its own needs and specificity, but will also enable favourable assessment processes on the part of externals called in to verify the attainment of such results and that the standards determined in the elaboration phase of the experimentation planning have been respected.



The degree of 'objective' organizational maturity was formalized and schematized in 5 maturity levels, brought out as follows:

Level 1 – Performed: this level is when a process reaches its goals/targets performing the necessary activities. The existence of the process is only noted through evident results

Level 2 – Managed: this level is when a process is planned, controlled and adapted by means of parameters which measure the ex post results

Level 3 – Established: this level is when performance has been formalized and standardized in specific and knowable ex ante procedures

Level 4 – Predictable: is when measurement of the results obtained and the gathering of information relating to its deviation with respect to the standards of reference allows estimation and forecasts on the future trend of the organization's performance

Level 5 – Optimized: is when there are constant interventions aimed at improvement in order to adapt to new organizational demands

The relevant processes and the parameters represented a methodological framework used for the empirical survey. The assessment was made after having visited the partnership companies, interviewed the Board of Directors, the management (general director, administration manager and health manager) and the heads of the local health authority concerned. The annual statements and economic results were also studied together with the governance mechanisms and the regulation of the major processes: procedures, manuals, regulations, certifications, information systems, accounting systems, governance (statute and corporate agreements), management reports, services menu, organizational models/standards etc. The management of the competent Regional offices was also interviewed to obtain the authorization, the control and consolidation of the experimentations, to study the bids tendered for the choice of private company, the resolution authorizations, the accounting, control and certification systems. During and subsequent of these meetings the companies and the Regional administration offices supplied the work group with the rest of the documentation requested.

The field work was then divided into four focus groups for the top executives (chairmen and managing directors) of the partnership companies, and the relevant Regional office executives. The focus groups then produced a final assessment report covering the suitability of resorting to corporate and organizational forms of partnerships in experimentation based management for healthcare

One should stress that the 'objective' organizational maturity assigned to each process is therefore the result of the 'combination', discussed and developed within the work group of the often heterogeneous perceptions and experiences during the experimentations and is thus inevitably subject to limitations deriving from the need to be synthetic and integrate.

Said indications are, naturally, not to be taken as an attempt to formulate an 'ideal' organizational standard to be assigned to experimentations. Rather, they may represent a useful framework of reference within which specific management and organizational innovation of a single partnership may be collocated.

#### **4. Governance Maturity Levels: Four Organizational Models**

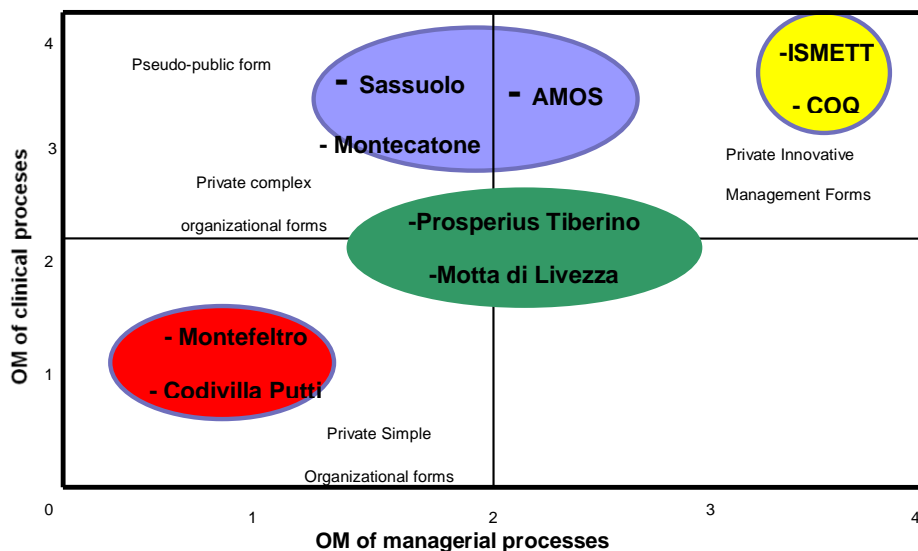
After having examined the maturity level of the clinical and management processes of the 10 case studies the organizational maturity of the partnerships

Within each organizational form one can note difficulty in finding an equilibrium between the managerial management systems and public objectives . Although, particular reserves do exist in merit to partnership holding as imposed by the state legislator who attributes a maximum/majority shareholding participation to the public partner, thus representing an inhibiting factor that reduces procedural flexibility, obliging PPP to respect the public regulations.

In all the organizational forms equilibrium is more easily obtained between the ‘private’ management share and resource reference of the partnership company versus the general and ‘public’ objectives where the partnership company is assigned precise activities, whose qualitative and quantitative extents are predictable. Such a condition therefore seems to facilitate resorting to and adopting/implementing planning and control management tools, and also and above all economic financial management implementation. On the other hand, where the partnership companies are entrusted with a more complex structure where there are also activities or services that are not totally predictable given the fact that they result from emergencies or unexpected requirements (e.g. emergency matters or transplants) reconciliation ‘ex ante’ predictable economic financial objective balance and satisfying public demands is even more difficult. This equilibrium does not represent a decisive variable in the determination of the chosen organizational standard. The maturity of management and clinical processes are on the other hand decisive variables in defining organizational standards. The maturity of managerial processes in a partnership company, i.e. factors that contribute to defining the originality and innovation in this area of interest, signifies making reference to an organizational form that is not just a repetition of solutions already adopted in the public system and in the private system, but adopts an innovative organizational standard both in the procedures used to articulate the various responsibilities and competence within the company’s management structure and on the use of specific procedures within a study of the processes aimed at recovery of efficiency, assistance quality enhancement/improvement and also the introduction of specific control and assessment procedures concerning results and performance. For the second area of interest, typically clinical, the maturity of the processes can be found in the capacity of the PPP companies to develop experimentation activities for assistance, diagnosis and clinical research, promoting and adopting advanced technology, and developing innovative formation/training courses for medical and nursing personnel.

Examining the management and clinical processes and the organizational maturity levels one can classify the ten case studies in four types of organizational forms as brought out in Figure 3: Entrepreneurial Direct Control, Entrepreneurial Organized Control, Pseudo-public and lastly ‘innovative private forms’.

Fig. n.3 – Organizational Maturity and organizational forms



Mis en forme : Interligne : simple

Source: our elaboration

#### ***Private simple and complex Organizational forms***

Entrepreneurial forms are characterized by a regulator and governance system of the more significant managerial and clinical processes, which is based on the direct intervention of entrepreneurial and managerial figures, expression of the private partner gifted with experience and competence in the management of health structures. At the origin of experimentation the main aim is to support a public/national health structure.

Relations with the public partner and the Regional district office administration are governed under direct control without any significant management control. Governance and regulation of the processes are based on hierarchy and quasi 'master' systems.

The entrepreneurial organized control forms are different to those under direct control inasmuch as the relation with the private partner and the public partner are explained in the use of organizational mechanisms gifted with greater accountability and reliability; the relations with the public partners and the Regional offices are frequent but governed by poorly organized and formalized relations

#### ***Pseudo-public Forms***

Pseudo-public forms differ substantially from the previous two forms for their regulation and governance procedures of the more significant management and clinical processes that in this case are entrusted to the management who adopts governance and process regulation mechanisms for coherent with the indications and provisions of the public sector (bids and purchases). They are illustrative forms of good public management, perfectly inserted in the Regional planning systems and justify the involvement of private partners mainly in terms of financial resource contribution. In this case the public partner and the Regional District offices show a high degree of maturity in the governance of planning, programming, auditing, certification and control management processes.

#### ***Private Innovative Management Forms***

Lastly, the private innovative managerial forms have a regulation and governance of the more significant management and clinical processes entrusted to the management, expression of the private partner who adopts innovative mechanisms of governance and regulation of the same. Experimentation is founded on the possibility to acquire, from important and even international private partners, clinical and managerial best practice (information, management control, quality certification, international crediting systems, patient relation management, clinical risk governance etc). The public partners (local health authority and Regional administration) intervene executing the health plan and economic-financial control.

Each organizational form in table 2 shows the degree and level of organizational maturity per each single process.

Table 2 – Maturity Level of the Processes examined/under study

Tab. 1 Synthetic degree and level of organizational maturity

<b>Process and management control system</b>	<b>Degree</b>	<b>Level of organizational maturity</b>
Process of finalizing agreements with the regional health system	High	3 established
Process of evaluation and monitoring of health services accounted ASL	High	3 established
Process control and evaluation of the objectives of the contract	High	3 established
Assessment process and control of risk management	High	5 optimizing
Process measurement and control of patient satisfaction, perceived quality	High	3 established
Process of external communication	Medium	1 performed
Booking process	Medium	3 established
Data collection of local health needs	Low	1 performed
Environmental Compliance Process	Low	3 established
Selection process for managers	High	3 established
Process evaluation and incentive system for managers	High	5 optimizing
Process of staff planning, recruitment, staff training, incentives	High	5 optimizing

Process of evaluation and monitoring of individual and incentive	High	5 optimizing
Process of evaluation and control of occupational safety	Low	3 established
Process of internal communication	Low	2 managed
Process of total quality	Medium	4 predictable
Process and system of delegation and proxies	Medium	3 established
Strategic Planning Process	Medium	3 established
Process Budgeting	High	5 optimizing
Process of organizational change	High	4 predictable
Process of providing goods and services	Medium	4 predictable
Process of assessing and monitoring the investment	Medium	4 predictable
Process of managing ICT investments and new health technologies	High	5 optimizing

Source: our elaboration

## 5. Critical Areas of the Organizational Forms

Comparison within the focus group resulted in some critical points that presently seem to condition the advantage of resorting to partnerships on the part of the public subjects ( local health authority and Regional offices), that more significantly conditions the managerial management of partnership companies.

For entrepreneurial forms the establishment of partnerships might result highly non competitive in the long run and might also constitute an obstacle/impediment in attainment of some typical advantages stemming from organizational solutions where the private subjects contribute financial resources or managerial and professional know-how with the risk, if anything, that said solutions bring to light income standing/situation rent Non-competitiveness and the emerging income standing sustained by potential inefficiencies represents an element of criticism. The particular combination of provision and partnerships factors counter-distinguishing the partnerships might leave room for criticism in the absence of effective competitive comparison mechanisms that would render the private subjects less inclined to seek rationalization, efficiency and qualitative enhancement interventions with said standards ( A S K )

For entrepreneurial innovative managerial forms of experimentation based management any change in provisions or the services offered might generate enormous obstacles/difficulties both from a managerial point of view and also an economic-financial aspect. At present experimentations refer to civil law discipline for joint stock companies as concerns dispositions relating to bids/tenders and to personnel; an eventual modification might create numerous problems to the PPP companies. In the work study in question the presence of a majority shareholding on the part of the public subject in a PPP could represent an inhibiting factor by reducing procedural flexibility especially in

bids/tenders and supplies/procurement, obliging the company to respect the public regulations and not the civil law aspect for joint stock companies. This would reduce margins of efficiency recovery in terms of organization of the administration activity and savings in the negotiation phase with suppliers.

Another critical point is the possibility of having to modify the supply of services, although in many cases convention frameworks are established that, generally speaking, regulate/govern the relationship between local health authorities and companies, concerning what is established yearly at the annual conventions that define, within the Regional District planning, the services that the PPP companies are called to supply and the relative compensations, also consistent with the Regional District budget system. Thus, changes are not lacking in the regional planning that heavily condition the offer of services in experimentations, creating numerous problems both to economic-financial management and organizational management.

Furthermore, at the annual conventions the yearly compensations to be given to experimentations are allocated. However, both the time frames for renewal of annual conventions and, at times, for allocation of the financial considerations do not coincide with the closing period of the balance sheets provide for by law. All this creates greater management uncertainty that the PPP is called to face and in some cases this determines severe planning problems also in relation to the company's yearly exercise. There are also overlapping territorial issues relating to the supply of services. This arises because the setting up of an experimentation based management often originates with the public subject's sole objective being to avoid closing down of the hospital structures on the territory, without bearing in mind the Regional District planning nor eventual territorial planning made based on the health plan.

Another uncertain and unresolved aspect that creates numerous difficulties is the scarce clarity in 'closure' procedures and experimentation stabilization procedures. These are elements of extreme importance that condition the expediency of managerial experimentation tools. Both the national and Regional regulation guidelines often seem unclear/vague in this respect.

For the innovative managerial forms among the critical areas that are to be faced there is also the inevitable need to resort to public interventions. Experimentations are to support these/those heavy investments for clinical and management innovation brought to the structure and that they are unable to fulfil with the Regional Committee Resolution alone. Besides which the need for economic growth of the experimentation based management is completely denied especially in terms of direct entrustment on the part of the controlling public party and a possible participation of the company in competition entrustment (concorso di affidamento) of services procedures by outsourcing. An extension of the offer might improve the conditions of the economical-financial balance in the average period of the company by means of guaranteeing granting of further services to safeguard health care so as to reduce the risk of financial interventions involving the partners.

Lastly, particularly for the innovative managerial forms the direct choice of the private partner represents a decisive element contributing with its own specific competence, professionalism and know-how to the innovation of the managerial standard. Consequently, the choice of the private partner by public bid and not by direct choice might condition the likelihood of building an organization with clinical and managerial innovation capacity.

These are the greater critical areas which resulted from the study of the ten experimentations divided into four organizational forms.

The study shows how useful it is to compare the different experiences throughout the Italian territory and how important it is to show some of the difficulties which, surprisingly, seem common to nearly all the experiences. The meetings and semi-structured interviews with the Regional

district offices showed that PPP were on more than one occasion authorized to proceed without first having defined a detailed and thorough planning strategy and how they often did not respond to any of the requirements in the Regional Health Plan but only functioned as a tool/means to avoid the closing down of the inefficient hospital structures or to meet specific demands. At times this created true incompetence at the Regional offices in managing the inevitable consequences that the tool generates, referring/deferring any solution of the problems to the deed of partnership. This does not seem to suffice in managing all the problems that arise from the relations with the PPP and the public entity. Likewise the competent Regional offices and the local health authority did not use efficient control tools, and found themselves having to face enormous difficulties at the end of the three yearly period when the experimentation phase came to term awaiting the stabilization decision on the part of the Regions.

What certainly resulted is that the advantage of resorting to PPP depends on the objectives/goals of the experimentation that guide in the choice of a private partner.

In the case of entrepreneurial forms: the advantage of PPP depends on the possibility of guaranteeing health services on the territory at lower costs

The advantage of resorting to this form of PPP is based on the possibility of the regulations/provisions to adopt 'privatistic' systems and procedures (bids and purchases, personnel recruitment and management). On the contrary it becomes a restriction that makes privatistic management with accreditation preferable. Most certainly problems do exist and a solution must be found, even of a regulation/normative type.

In the case of pseudo-public forms: the advantage of PPP cannot easily be shared

In the case of innovative managerial forms: the advantage depends on whether innovative management forms can be experimented and on the supply of health services. The advantage of resorting to PPP is based on whether the Regional plan can be integrated with additional health services innovating management, even though the economic balance is in any case guaranteed by means of the public system supply.

The critical points resulting from this study as brought out in Table 3 represent a useful instrument/tool in order to take steps and proceed in eventual corrective regulations both regionally and nationwide as the subjects involved hope. This step is certainly indispensable if one wishes to use the tool of experimentation based management. A clearer normative is necessary to reduce uncertainty that hovers over the phenomenon and discourages private subject investment in partnerships with a public subject and also to avoid dissuasive behaviour of the public body who limits its employment.

## Reference

Amatucci F., Lecci F., 2006, *Le operazioni di partner-ship finanziaria pubblico- privato in sanità: una analisi critica*, in E. Anessi Pessina, Cantù E.(ed) Rapporto OASI 2006, Milano, Egea, pp.689-731.

Amatucci F., Lecci F., Marsilio M., 2007, *Le sperimentazioni gestionali per i servizi core: ricognizione delle esperienze e analisi di due casi*, in E. Anessi Pessina, Cantù E.(ed), Rapporto OASI 2007, Milano, Egea, , pp.325-371.

Anselmi L. 1997, "Opportunità per la costituzione di società miste in sanità", *Organizzazione sanitaria*, 6: 23-30.

Anselmi, L. 2003, *Percorsi aziendali per le Pubbliche Amministrazioni*. Torino, Giappichelli.

- Barnett P., Perkins R., Powell M. 2001, "On a Hiding to Nothing? Assessing the Corporate Governance of Hospital and Health Services in New Zealand, 1993-1998". *International Journal of Health Planning and Management*, 16: 139-154.
- Borgonovi E. 2002, *Principi e sistemi aziendali per le amministrazioni pubbliche*. Milano, Egea.
- Borgonovi E. 2000, "Governare l'amministrazione pubblica con il sistema a rete". *Azienda Pubblica*, 5, 485-487
- Bovaird T., Löffler E. 2002, "Moving from Excellence Models of Local Service Delivery to Benchmarking Good Local Governance". *International Review of Administrative Sciences*, 68: 9-24.
- Bovaird T. 2004. Public-private partnerships: from contested concepts to prevalent practice. *International Review of Administrative Sciences* 70(2): 199-215.
- Brinkerhoff DW, Brinkerhoff JM. 2002. "Government-nonprofit relations in comparative perspective". *Public Administration and Development* 22(1).
- Brinkerhoff JM. 2002. Partnerships for International Development: Rhetoric or Results? Boulder, CO: Lynne Rienner Publishers
- Brinkerhoff JM. 2002. Government-NGO partnership: a defining framework. *Public Administration and Development* 22(1): 19-30.
- Cappellaro G., Marsilio M. 2007, "Le collaborazioni Pubblico Privato per la gestione dei servizi sanitari: riflessioni alla luce della ricognizione delle esperienze internazionali e nazionali", *Mecosan*, 63:9-36.
- Cooke-Davies, T. J. (2004). *Project management maturity models*. in J. K. Pinto & P. W. G. Morris (ed.), *The Wiley guide to managing projects*. New York: Wiley, Chapter 49.
- Cepiku D. 2005, "Governance: riferimento concettuale o ambiguità terminologica nei processi di innovazione della P.A.?" *Azienda pubblica*, 1: 105- 131.
- Cook J., Deakin S. 1999, Stakeholding and corporate governance: theory and evidence on economic performance, ESRC Centre for Business Research.
- Cuccurullo C. 2005, "I meccanismi di governance nelle collaborazioni formali tra pubblico e privato in sanità". *Mecosan*, 54:11-28
- Cuccurullo C., Tommasetti A. 2002, "Le collaborazioni tra pubblico e privato in sanità: configurazioni organizzative e finalità strategiche". *Mecosan*, 44:61-71.
- Donabedian A. 1966, "Evaluating the Quality of medical care", *Mibank memorial fund quarterly*, 44: 166-206
- Donaldson T., Preston L.E. 1995, "The stakeholder theory of corporation: concepts, evidence and implications", *Academy of Management Review*, 20 (1): 65-91.
- Faillace R. 2005, "Le sperimentazioni gestionali in sanità: il caso Volterra in toscana", *Mecosan*, 54: 81-88.
- Freeman R.E., Reed D.L. 1983, "Stockholders and Stakeholders: A New Perspective on Corporate Governance". *California Management Review*, 25: 88-106
- Freeman R.E., Evan W.M. 1990, "Corporate governance: a stakeholder interpretation", *Journal of Behavioral Economics*, 19(4): 337-359
- Galdiero C. 2009, *Il cambiamento istituzionale e la governance dei servizi pubblici: la ricomposizione del campo sanitario italiano alla ricerca di una nuova compliance*, Martinez M. (ed). *Cambiamento organizzativo e compliance. Assunti teorici e ricerche empiriche*. Napoli, Editoriale Scientifica.



- Galdiero C., Cicellin M. 2009, *L'evoluzione dei modelli di governance nel sistema sanitario italiano*, in Mercurio R., Martinez M. (ed), *Modelli di Governannc e processi di cambiamento nelle Public Utility*, Milano FrancoAngeli, pp.121-156..
- Galdiero C., Cicellin M. 2009, "Soft Coordination Mechanisms to Integrate Institutional Logics in Public-Private Partnerships". *Mecosan*, 71: 57-74.
- Grimsey D, Lewis MK. 2007. *Public Private Partnerships: The Worldwide Revolution in Infrastructure Provision and Project Finance*. Edward Elgar Publishing Limited: Northampton, MA.
- Kickert W.J.M. 1997, "Public Governance in the Netherlands: An Alternative to Anglo-American Managerialism". *Public Administration*, 75: 731-752.
- Kickert W.J.M. 2003, "Beneath Consensual Corporatism: Traditions of Governance in the Netherlands". *Public Administration*, 81(1): 119-140.
- Kickert W.J.M. 2004, "Distinctiveness of the Study of Public Management in France, Germany and Italy", IRSPM VII Confrence, Budapest.
- Krishna A. 2003. "Partnerships between local governments and community-based organizations: exploring the scope for synergy". *Public Administration and Development* 23(4): 361-371.
- Lega F. 2006, *Vincere la resilienza al cambiamento: come le aziende sanitarie stanno affrontando le sfide dell'innovazione strategica e del cambiamento organizzativo*, Anessi Pessina E., Cantù E. (ed), *Rapporto OASI 2006 L'aziendalizzazione della sanità in Italia*. Milano, Egea.
- Lynn L., Hill C. 2003, "What Do We Know About Governance? An Analysis of Empirical Research", EGPA Annual Meeting, Oeiras.
- Longo F. 2006, "Governance delle reti di pubblico interesse: quali strumenti manageriali per rispondere ai problemi attuativi?". *Azienda Pubblica*, 1: 13- 35.
- Mayntz R. 2003, "From Government to Governance: Political Steering in Modern Societies", Summer Academy on IPP, Wuerzburg.
- Martinez M. 2009, *Cambiamento organizzativo e compliance. Assunti teorici e ricerche empiriche*, Napoli, Editoriale Scientifica.
- Mapelli V. 2007, "I sistemi di governance dei Servizi sanitari regionali", *Quaderni Formez*, 57: 317
- Marsilio M., Mirano F. 200), "Sperimentazioni gestionali in sanità: il caso AMOS spa, l'azienda multiservizi ospedalieri e sanitari del quadrante tre di Cuneo". *Mecosan*, 50: 83-94.
- Mascia D. 2009, *L'organizzazione delle reti in sanità*, Milano, FrancoAngeli.
- Meneguzzo M. 1995, "Dal New Public Management alla Public Governance: il pendolo della ricerca sulla amministrazione pubblica". *Azienda Pubblica*, 3: 220-231.
- Meneguzzo M. 1997, "Ripensare la modernizzazione amministrativa e il new public management. L'esperienza italiana: innovazione dal basso e sviluppo della governance locale". *Azienda Pubblica*, 6: 587-606.
- Meneguzzo M. 2000, *I terreni dell'innovazione organizzativa: le reti sanitarie multispedaliere e multi servizi*, in Bergamaschi M., (ed) *L'organizzazione nelle aziende sanitarie*, Milano, McGraw Hill.,
- Johnston J, Romzek BS. 2005. Traditional contracts as partnerships: effective accountability in social service contracts in the American states, in *The Challenge of Public-Private Partnerships: Learning from International Experience*, GreveC, HodgeG (eds). Edward Elgar Publishing: Northampton, MA; 117-143.

- Koppenjan J. 2005. The formation of public-private partnerships: lessons from nine transport infrastructure projects in the Netherlands. *Public Administration* 83(1): 135–157.
- Pfeffer J., Salancik G.R. 1978, *The External Control of Organizations: A Resource Dependence Perspective*, Harper and Row, New York, NY.
- Rhodes R.A.W. 1992, “Beyond Whitehall: Researching Local Governance”, *Political Studies*, 44: 652-667.
- Rhodes R.A.W. 1996, “The New Governance: Governing Without Government”, *Political Studies*, 44: 602-637.
- Rhodes R.A.W. 1997, *Understanding Governance, Policy Networks, Governance, Reflexivity and Accountability*, Buckingham, Open University Press.
- Rhodes R.A.W. 1998, “Understanding Governance: Comparing Public Sector Reform in Britain and Denmark”. *Scandinavian Political Studies*, 22(4): 341-370.
- Rhodes R.A.W. 2000, “The Governance Narrative. Key Findings and Lessons from the ESRC’s Whitehall Programme”. *Public Administration*, 78: 345-363.
- Rhodes R.A.W. 2008, *Policy networks*, in Galligan B., Winsome R., (ed.), *The Oxford Companion to Australian Politics*, Oxford, University Press.
- Rosenstock, C., Johnston, R. S., & Anderson, L. M. 2000, “Maturity model implementation and use: A case study”. Proceedings of the 31st Annual Project Management Institute 2000 Seminars and Symposium, Paris, France,
- Simons R. 1995, *Levels of Control*, Harvard Business School Press, Boston, MA.
- Simons R. 2000, *Performance Measurement and Control Systems for Implementing Strategy*, Prentice Hall, Englewood Cliff, NJ.
- Suchman EA 1967, *Evacuative research*, New York, Russell Sage Foundation
- Zucker L.G. 1977, “The role of Institutionalization in cultural persistence”. *American Sociological Review*, 42: 726-743.
- World Bank. 2005. Exploring partnerships between communities and local governments in community driven development: a framework. Report No. 32709-GLB, World Bank, Environmentally and Socially Sustainable Development Network, Washington, DC, June 29.
- Wettenhall R. 2003. The rhetoric and reality of public-private partnerships. *Public Organization Review* 3: 77–107.

# ORGANIZATIONAL CHANGE, COMPLIANCE AND MANAGEMENT CONTROL SYSTEMS: A SURVEY ON ITALIAN PUBLIC UTILITIES

**Marcello Martinez**

Full Professor of Organization Studies  
Seconda Università degli Studi di Napoli  
[marcello.martinez@unina2.it](mailto:marcello.martinez@unina2.it)

**Mario Pezzillo Iacono<sup>1</sup>**

Assistant Professor of Organization Studies  
Seconda Università degli Studi di Napoli  
[mario.pezzilloiacono@unina2.it](mailto:mario.pezzilloiacono@unina2.it)

**Caterina Galdiero**

Postdoc Fellow  
Seconda Università degli Studi di Napoli  
[caterina.galdiero@unina.it](mailto:caterina.galdiero@unina.it)

**Riccardo Mercurio**

Full Professor of Organization Studies  
Università degli Studi di Napoli Federico II  
[mercurio@unina.it](mailto:mercurio@unina.it)

## ABSTRACT

*The paper analyses the characteristics of processes of organizational change implemented by Italian companies engaged in the supply of Local Public Transportation (LPT) services and energy supply, in the light of the interpretive framework of neo-institutional matrix. The main goal is to explore the relationship, rarely explored empirically in literature, between Management Control Systems and change processes. A questionnaire survey was designed as the instrument to garner data. The survey focuses on the universe of large Italian companies that supply LPT and energy services, analysing not only whether and in what manner said instruments have been adopted by the PU managers, but also their true benefit in the implementation of planned change. The analysis confirmed that managers develop organizational change processes consistent with the purpose of institutional legitimacy, applying behavioural control mechanisms, such as rewarding incentive and empowerment policies.*

---

<sup>1</sup> Correspondent author: tel. +393475323598

## 1. INTRODUCTION

Within the main members of the European Union there has been an institutional reform underway for quite some time and an organisational change in the supply of public network utilities (electricity, gas, transport, telecommunications, water) shifting from a National non-Market Regulation to a European Market Regulation. The objective is reportedly to increase economic, quantitative and qualitative performances in planning, projecting, supply and control systems of organisations involved in public utility (PU). Italy too has taken steps, particularly local public transport companies (LPT) and electricity supply enterprises, with the setting up of initiative-related institutional change to introduce competitive mechanisms and substitute the present public monopoly infrastructure for utility management relating to a city or a region .

The search for framework able to furnish helpful explanations to comprehend these PU change processes pinpoints an important theoretic reference in the tradition of survey of new institutional economics. This approach evolves around the central problem of isomorphism, that is to say a search for an explanation to the similarity to be found in the forms adopted by the organisations belonging to the same organisational field (3). The contributions consistent with said point of view, characteristically pinpoint, in the concept of compliance, the interpretative key to change processes, set in a longitudinal prospect. Said hermeneutic key identifies a tendency for organisations to conform to the institutional concept, subjecting itself to accepting the influence of the institutional mechanisms such as rules, regulations and values. The underlying concept that heads the organisational change is therefore identified in the need for an institutional legitimation that enables the company to survive as it opens up to indispensable resources.

In Italy liberalisation and privatisation policies (rarely are they substantial) , spinning off processes, the gap between public overhead capital management and utility supply, the introduction of service agreements for the management of business relationships with the local and regional bodies, mergers, take-overs and partnerships aimed at attaining scale and scope economies and the creation of multi-service business over the territory), are all phenomena that have modified and greatly increased the variables that utilities are to monitor in business decision-making processes. It does not, therefore, only refer to the more traditional control transparency and reliability control of the financial items; but also to those connected with attainment of operative cost-effectiveness and compliance results, both with respect to the evolution of the relative law and regulation reference and with respect to recognised behaviours and best practices. In this sense, it is evidently vital to look into the role and relevance of Management Control Systems (referred to hereafter as MCS) used by the Italian PU sectors in the implementation of governance processes in organisational change.

The main aim of this paper is to explore the change process characteristics developed by Italian business managements involved in utility supply in LPT and electricity supply, in the light of an interpretative neo-institutional matrix framework. In particular, the purpose of this study can be traced analysing the report, rarely explored empirically in literature between MCS and change processes, analysing not only whether and in what manner said instruments have been adopted by the PU managers, but also their true benefit in the implementation of planned change.

From an empirical quality-quantity analysis of 115 Italian LPT business utilities and 70 Italian businesses supplying energy ( with 100 employees or more) the following points of study were developed:

- (i) which changes were developed by the managers of the LPT and energy supply (planned versus emergent change?)
- (ii) what is the relationship between the use of MCS and the degree of attainment in planned change objectives?
- (iii) What are the behavioural control instruments characteristically used by the utility management for organisational change management (e.g. incentive policies, empowerment processes, monitoring of results etc )?

Starting from the purpose of this study the paper is articulated thus: in the following paragraph the framework of reference is analysed, developing hypothesis relating to the organisational change characteristics using a neo-institutional approach and relationships between change and MCS. Thence, the analysis methodology adopted is illustrated defining the common reference, the statistic method and statistic elaborations (descriptive and inferential). Lastly, the results of the empirical survey are discussed and commented upon summarising the conclusions and the main principals of the study in the final paragraph.

## **2. FRAMEWORK AND CONSTRUCTION OF HYPOTHESIS**

### **2.1 Neo-institutional approach to change within PU: adaptive planned change or emergent change?**

Organisation studies on neo-institutional matrix organisational studies analyse the behaviour of single organisations and institutions in the light of different institutional frameworks that influence the behaviour of the single parties and stimulate change in organisations living the field (???) and the specific managerial actions (7) (8). According to this approach it is the institutions present in the field who exercise explicit pressure and who generate the line of development for the change and determine homogeneity in the organisational forms (institutional isomorphism), in a process aimed at more or less knowingly pinpointing the most preferable organisational form which according to the institutional performers is perceived as legitimate and therefore more adapt for the intended template (9)

The overall cognition regulatory and governance structures that define an organisational field are such that the single behaviours are considered more a reflection of external pressure that define such or, at least, condition such, rather than the reflection of voluntary and subjective choices. Change is thus typically construed as a tendency to institutional compliance, i.e. uniformity and the search for legitimation. Van de Ven and Hargrave (10) define change, and in particular institutional change, as the forms, quality and institutional difference state in an institution over time. Deephouse (11) refers to a concept of strategic isomorphism meaning a process through which an organisation's change strategy tends to be similar to the strategy of other organisations operating in the same field. According to this approach, that organisation's legitimation is conferred by a number of social performers, in particular by government bodies who exercise authority on the organisation and by public opinion (12).

Neo-institutional theories which have dealt with the change are placed, therefore, in a longitudinal prospect observing the variations undergone by the organisations in the period in question and trying to comprehend the reasons behind them, the processes and the results (13).

Within said theoretical approaches one can find a double tension form which one can see the change as an almost uncontrollable process (an invisible hand) conditioning and orientating the organisations and another perspective that assigns the promoters of the change with not only a reactive role but also a proactive role (Human Agency). This is a significant dichotomy that some authors of neo-institutionalism have attempted to resolve availing themselves of the Giddens renowned structure theory (14). In other words, this tension is linked to traditional differentiation pathways between planned change and emergent change (15)

The contrast between planned change and emergent change is object of heavy debate in organizational studies and traces, thus, the classic contrast between structure and agency. Consistent in line with a neo-institutional perspective the change seems planned when it is knowingly adopted by the management to understand and take into account external pressure or to adopt procedures, routines and behavioural templates imitated by other successful organisations. It is based on a known cycle in which the reasons for change are defined in consistent with legitimate institutional objectives, action is taken to accomplish it, the results are assessed and actions or, in alternative the self-same targets, are amended. With neo-institutionalism therefore the generally criticized component of planned change, i.e. the scarce importance given to human agency in sense-making

and decision making, is overcome as larger scale is moving within the framework, able to take into account the fact that change can be interpreted as voluntary and deliberate, that in any case it is manifested within an inspiring-related institutional environment, by which it is influenced and to which it transfers part of the practices and procedures developed.

Emergent change is, on the other hand, seen as the management's skill to recognise resources and expertise within the organisation to then reinvent the mechanisms at the basis of the inventiveness of that organizational form, in compliance with a prospect that gives more margin to the allomorphism hypothesis and that assigns the change processes with the aim of achieving unique and unequalled organizational capabilities that are the source of sustainable competitive advantages. In organizational literature that has dealt with PU change dynamics there is the firm belief that most of these organizations undergo a change process induced by its institutional environment (planned change) (16)(17).

Reasons for change are above all dictated by institutional pressure deriving from rules, regulations and directive systems that render the PU sector an organizational field differentiated by compliance strategies and the search for legitimation. In this prospect, the Italian PU energy industry and the LPT would be closely linked to an impending regulatory framework, with effects on ownership and legal disposition, on governance and on the organizational-strategy choices (18). Energy for example is, amongst other things, conditioned by the regulation system, by directive 92/92/EC (the principles of cost-effectiveness, guarantees for access to fair/non-discriminating transmission and distribution networks, to the Bersani Decree 79/99 that has adopted the European directive and laid down a new organisation for that sector, relying on a decline in ENEL's market power, in order to favour free competition (19), One can consider liberalisation introduced by Decree 422/97, 400/99, 267/2000, 326/2003 and 308/2004 (20). More recently the Ronchi Decree (166/2009) became Law and the implementing Decrees of art 23 Bis were approved and completed the framework of local public service reform, confirming the cessation of direct delegation. From another point of view, there are at least two phenomena that emerge (beside the formal privatisation) that have had different influences and are nonetheless pervasive in the compartment of PU energy reorganisation. Common tension towards combination processes (mergers and takeovers) is now characterising utility markets in Europe: in Italy, but also in France, Germany and the UK; firstly the changeover from mono-utility to multi-utility companies and – subsequently – to multi-service companies. Attempts to overcome the instrumental utility model of the City Council (ex municipalities) are more and more widespread to yield new solutions which are the fruit of co-operation amongst businesses that under different city councils, also through agreements with private companies, and with the ambition to export skills, which have matured locally, onto new markets. It is a developmental 'territorial' orientation of utilities that play on the conviction that greater efficiency may be attained, through integrated structures (21). Consistent with a neo-institutional logic the management of public or private energy and LPT companies sets into motion changes aimed at assuring their own organisations are in full respect of the regulating bodies and the strategic/organisational principles legitimated by the institutional sphere. To this effect we may formulate our first hypothesis through the following proposition:

**Hypothesis 1:** In LPT and Italian energy the management is mainly brought to activate planned change (i.e. characterised by an ex ante clear and known objective consistent with socially legitimated objectives rather than emerged change).

## **2.2 Organisational Change and Management Control System**

The second macro-question analysed is the relationship between the adoption of MCS and planned changes. The role and benefit of MCS in the implementation of business strategy and the governance of change processes represents, in actual fact, a question that has given rise to many a debate in literature. An initial aspect to clarify in the study is evidently linked to the conceptualisation of the MCS. They are traditionally interpreted as formal control systems, routines

based on information, used by managers to maintain or modify organisational dispositions (22). Generally speaking, the adoption of control systems implies the determination of behavioural standards and the definition of mechanisms to assure those standards are respected (23). Many of these mechanisms are, by nature, diagnostic (24): this means that they need to be assessed to see how and to what extent the performance of the company reaches the targets relating to change processes being realised, the analysis of gaps and, subsequently, the planning of eventual programmed solutions. Corrective action, after diagnosis, is naturally to revise behavioural objectives or, where opportune, to both reduce the eventual performance gap perceived. In substance, MCS are instruments that management may avail itself of to address and control personnel behaviour so as to render it consistent with the change requirements retained relevant and predefined. Planning and strategic control systems, planning and economic control and financial systems and project management make up evident and renown examples. One should note that the conceptualism just mentioned of MCS subtend a significant evolution with respect to the original concept (25): From instruments used to supply purely financial and quantifiable information in support of managerial decision making, of processes through which managers aim to influence behaviours of the various organizational promoters consistent with the change strategies implemented (26). Horngren et al. (27) depict the MCS as integrated technical systems to gather and utilise information to motivate employees and assess performances. Consistent with the definition 'extensive' for MCS and in line with an analysis prospect centred on organisational change, the work herewith is focused on management control systems as a whole orientated in the regulation of organisational behaviours (and typically integrated with evaluation systems and personnel incentive schemes neglecting the more traditional ones connected to financial reporting. Literature on management has also found that the Italian PU is slowly but surely following a rising trend in its use of these series of instruments, demonstrating a progressive detachment from the bureaucratic logic of control, typical of many public organisations(28). Said trend is evidently consistent with the need to govern more and more complex decisional processes and to pay greater attention when assessing managerial cost-effectiveness; owing to new forms of agreement for the production and supply of public utilities (for example the various forms of Public-private partnership) to the modification of governance orders (due amongst other things, to the commingling of public and private promoters and to the stronger tension towards efficiency and efficient targets, under the incentive of competitive, financial, environmental and social pressures (29). Social efficiency, in particular, concerns satisfying the customer to a greater extent, and is evidently a critical matter for PU: substantially it is knowing when and how to satisfy, both during the planning and programming stage and in the realisation of the activities, the needs of the community. Although MCS are often considered necessary elements in the implementation of efficient processes for planned change, also (and above all) in PU supply business, many managers seem to ignore them or, whatever the case, choose not to apply said mechanisms. Lorange and Murphy (29) suggest that the management may deliberately opt not to use MCS so as to avoid the gap between the results of change process and the targets of planned changes resulting. Additionally, one should note that the results of many organisational changes, in particular those of a strategic nature, are difficult to measure, clearly making the application of the self-same control mechanisms less efficient. Furthermore, the routine activity associated with controls might be perceived by the management as extremely boring, if compared to other more change-orientated steps, such as strategy elaboration or informative and motivated meetings with personnel, clients and/or other stakeholders, aimed at sustaining the change process in a strict sense. Lastly, one should note how some recent empirical surveys on organisational planning in local Italian PU (31) emphasise the scarce use of managerial mechanisms for behavioural regulation and control and results thereof (such as paid incentives – si potrebbe forse dire 'bonus') above all owing to cultural hindering elements that characterise these organisations still today (often connected to bureaucratic logics). The tendency to use extremely limited coordination systems based on standardisation of targets and the application of an incentive-based correlated system, results

evidently strengthened by the assumption that change processes are planned in the logic of compliance regulations, rather than with respect to the purpose of improving the efficiency for efficiency of the utilities supplied. Formalising the above considerations in a more structural manner, one may hypothesise that.

**Hypothesis 2:** the use of control systems adopted by the management in PU will be by far lower when planned change processes are implemented.

In literature, hence, there are many contributions that demonstrate the majority of elements obstructing the diffusion of MCS in the implementation of change processes (32): As mentioned, this refers to the reactive nature of many control systems, to the difficulties encountered in identifying and assessing the objectives of the planned change process and the 'intrusive' nature of the monitoring based control systems. These elements would suggest these mechanisms have a negative valence in change implementation. Vice versa the benefits of MCS could be greater than the disadvantages. Some 'classic' contributions (33) on organisational change suggest that behavioural control systems are vital to render its implementation efficient; especially when the change stems from a voluntary and intentional move. In this case, in actual fact, they represent an indispensable guide to assure that the change steps proceed in the expected direction or if, on the other hand, modifications need to be made to the established plans. Anthony (34) brings into evidence the dichotomy potential between individual and company targets connected to the reconsideration of the organizational disposition and emphasises the risks of resisting the change. MCS may contribute to mitigating these resistance processes by stimulating the partial reorganisation of said dichotomy, both through the definition of performance objectives and by creating incentive in order to reach those same goals. Furthermore, the often adaptive and incremental nature of change (35) implies that organisational processes and performance standards require frequent programmed modifications.

In other words, controlling the performance target levels (that is the crucial point/purpose of MCS), enables the managers to diagnose consistency between objectives and results of the change process, in a mutual logical adaptation of one versus the other. The hypothesis in synthesis:

**Hypothesis 3:** In PU the use of MCS on the part of the management is positively correlated to the success of planned change processes.

The aim of this study, as mentioned in the introduction, is also connected to understanding the degree to which the various control systems are used in the area surveyed, verifying the relationship between the use of the instrument and the success of the change. Simons (36) suggests a consolidated taxonomy of these systems. According to said approach one can substantially revert to two main levers to control and monitor behaviour in organisational change processes. The system of values are based both on personnel empowerment, through team work, well-constructed communication systems for the distribution of information, formation investments; and also on incentive schemes based on pay increases, promotions and credits. The incentives, as known, are a potentially motivating strategy, able to encourage people to behave in line with the change objectives and to start negotiated change modalities where problems concerning realignment of the objectives and of management of the conflicts are an 'economic' solution in the short run. Boundary systems, in turn, dictate 'the rules of the game' by identifying the activities to be carried out and those to be avoided: They are organisational 'braking systems' indicating and regulating behaviours. The functionality of boundaries and of diagnosis may be ascribed to outcome monitoring, defined both at an individual level and per each single organisation. The need for systems for the periodic review of the degree of target achievement is dictated by the observation that both learning processes and, on the other hand, resistance processes, nearly always require a target modification or to change implementation approach, also in the case of planned change. In



the empirical study developed hereafter, in line with this approach, the MCS studied are (i) participative management systems founded on responsibility empowerment (ii) monetary incentives/bonus, career advancement and rewards (iii) outcome monitoring

### **3. METHODOLOGY: REFERENCE AREA, SAMPLE PREPARATION AND DATA ELABORATION**

Quality and quantity analysis was based on the 115 Italian LPT utility suppliers and the 70 Italian businesses supplying energy, with either 100 employees or more. The definition of an average or large-sized business (with both in house assurance (non mi piace ‘assurance’ in questo contesto ma non comprendo che cosa intende qui con affidamenti) and multi-utility management normally in forms of mixed capital public-private companies) depends on the need to analyse entity with a complex organisational structure, more coherent with the possibility that formal systems of managerial control have been activated. How the dimension of the companies observed is articulated is illustrated in tables 1 and 2.

The survey was based on random analysis with the aid of instruments for probabilistic control and statistical inference. In particular, we carried out a random stratified sampling procedure, extracting from each class one simple one-off random sample. After this we then prepared a statistic of 64 units who were sent a specifically structured questionnaire, either by fax or email. Before actually submitting the questionnaire to the business top management, to test its efficiency we opted to carry out a pilot survey on 10% of the samples, resulting in a satisfactory degree of clarity and ‘functionality’ of the instrument. The organisational roles of the promoters of the interviews in the various PU is indicated in Table.

Insert table 3

Examining the assessment of the variables more thoroughly, one may note that many of them were found through different questions, although aimed at acquiring the same information, so as to verify the degree of reliability of the answers. For example, the characteristics of the change implemented was obtained asking the following:

- (i) ‘based on which factors has your company fixed the change objectives? (conformity with legislative regulations acknowledged analysis/company best practices of the internal management/results of customer satisfaction?)’;
- (ii) ‘has an explicit plan of action been arranged to manage and face the change?’; ‘which performers/promoters did you confront when drawing up the organisational change strategy?’

At least two questions were aimed at understanding whether outcome monitoring had been implemented during the change process (independent, ordinal and variable) : (i) ‘have individual performances been controlled and revised in your company?’; (ii) ‘in your opinion, have the directors been able to exercise constant and continuous supervision of the change underway?’.

The use of incentive career flexi working hours, empowerment (independent variables) was measured using the Likert ordinal scale articulated on four levels, in line with Ford and Greer’s analysis (op.cit). Lastly, the perception of the degree of success of the change processes developed (dependent variable) was assessed asking questions such as:

- (i) ‘how do you evaluate the final gap between planned change and emergent change?’
- (ii) ‘In your opinion has the emphasis on outcome monitoring during the change, assured a greater possibility of reaching the targets of the planned change?’
- (iii) ‘has strategic and organisational change had a positive impact on business results?’

In practice, the questions were formulated in such a way that behind each reply, there was a deeper meaning and, thus, more information was obtained with respect to those strictly understood in the questions.

Once having obtained the survey data, the replies were then elaborated using ordinal and nominal scales: the former to evaluate the replies based on different criteria amongst which a natural order exists (insignificant, discreet, significant, most significant) transmitting quantitative information; whereas the latter assigns a numerical code to the answer to identify and class the statistical point in question. It was then considered useful to use a transformation method into 'ranks', for a greater validity in assessment of the interviews, and to quantify the values expressed on an ordinal scale.

Applying ACP, with SPAD software, the following was elaborated:

- Table 4: Statistics of continuous variables
- Table 5: Matrix of correlations between independent variables
- Table 6: T-student test
- Table 7: Dependent variable gaps (devianza)
- Table 8: Liner Regression model (max likelihood)
- Table 9: Graph of the individuals

Insert table 4

Insert table 5

Insert table 6

Insert table 7

Insert table 8

Insert table 9

#### **4. ANALYSIS OF RESULTS AND COMMENTARY**

The first question asked in this study was to learn which approach the management used more, within PU (transport & energy) - planned or emergent change? From this study the first hypothesis developed in this work was confirmed: in 91% of the companies monitored the management declared they adopted planned change. This result is uniform for both sectors studied. In particular, the main planning drivers of organisational change can be found in the study of legal system compliance and participation with respect to acknowledged best company practices.

In the terms of Di Maio and Powell's well-known approach (37) the pathways leading these PU to institutional isomorphism are coercive i.e. orientated with respect to the regular standards of the EC, national and local regulations – and also imitative – as said organisations imitate 'successful' organisational forms or those perceived as the most valid according to the context. Furthermore, the managements of those utilities under exam typically declare they carefully evaluate *ex ante* 'where they wish to go' by preparing an explicit plan of action to manage and face the change; this plan also identifies the main abilities and skills that the operative personnel must possess, and then projecting the purchase of external managerial consultancy to develop the helpful know-how and the competence required for the change and which they do not fully hold. The presence of consultancy agreements for the re-planning of the company arrangement and management policies in human resources (manifested by approximately 65% of the companies) also demonstrates a tendency towards normative institutionalisation pathways, linked, that is, to the influence of performers of the change belonging to the same professional network. In this sense, one may say

that the drive for compliance (implemented through imitative, coercive and normative pathways) is superior to the invisible hand of the market: the change processes are not perceived as necessary in relation to the threat exercised by a mechanism of natural survival selection but stem expressly from conservative power strategy implemented by the management to react to homogenisation pressure on the part of the institutional environment.

Differently, the second hypothesis formulated does not find confirmation, according to which the use of MCS is less when planned change processes are adopted. To analyse the use of behavioural control systems during implementation of the change process, the hypothesis test is to see the nothing considered meaningfulness/purposefulness of the hypothesis on the part of the reference sample. In particular, a null hypothesis or conservative hypothesis was considered based on which only 30% of the monitored PU use MCS. The alternative hypothesis, on the other hand, foresees the use of control systems on the part of the companies of over 30%. As may be noted in table 6 the standardised variable of 0.01 falls within the area of tolerance/accepted area for which one must reject null hypothesis (H0) and accept the alternative one (H1) according to which over 30% of the companies use the MCS to regulate and control organisational behaviours.

Moreover, as concerns articulation of the MCS achieved, the instruments mostly used resulted being pay incentives and empowerment policies (see Table 5). A tendency resulted in participative management with a strong involvement of the personnel, not so much in the phase of change planning as in the realisation and monitoring of such; phase in which the company top management informs all the operative personnel of how the change process is proceeding and the eventual corrective steps that are to be taken. The flexibility of working hours, used as an incentive, was the least used. Likewise, defining a target quantifiable system and outcome monitoring are mechanisms which are seldom used by the utilities, especially LPT. Nonetheless, the top management did control the change process in the actual implementation of same, and not only in the final phase. In fact, in 69% of the cases interviewed the management declared they were inclined to exercise a constant and continuous role of supervision of the change in course, to take corrective steps, modifying if necessary the initial objectives (because they were too optimistic) or availing themselves of further resource acquisition to face the change. One should note that MCS are often used in an integrating manner by the businesses: career advancement, pay incentives and empowerment orientation are variables, one with the other, positively correlated ( $p=1$ ) (the yellow areas in table 5). From this point of view there seems to be a tension versus a high commitment model, that is a management and control template to trace greater commitment and a stronger employee recognition of the objectives of the change (commitments): tension detected as obtainable by adopting integrated measures to increase the worker's empowerment within the organisation, intensify formation, share information, define a retribution scheme that favours participation, co-operation and innovation.

Lastly, one should note that to confirm the third hypothesis and consistent with literature on mainstream reference, in the utilities observed a marked correlation resulted between the adoption of managerial control systems of behaviour and the success of change. This correlation was confirmed by analysing the logistic regression model (Tables 7 and 8) in which, considering the success of planned change as a dependent variable with respect to the use of managerial control systems, generally speaking the model resulted significant thanks to a P-value in the analysis of the deviance/gap below 0.5 to 95% of the confidence level. In particular, the variables referring to the use of incentives and empowerment were significant, having an Odd Ratio over 1 a p-value below 0.1. This result is to be read in a coherent key with a change centred on compliance typology: the success of change processes is not to be interpreted by the management in relation to the achievement of greater competitiveness or a sustainable competitive advantage, but is to be interpreted as the chance to legitimate its own behaviours within the organisation and its context of reference constructing a true social consent, also in the light of the relevance (still strong) of the utilities within the territory (and the local administrations). The management of the business

concerns studied does not feel judged, should we say, only based on the results achieved, but above all on its capacity to legitimise the organisation, adapting it to institutional pressures.

In the graph in Table 9, consistent with the objectives of the study, axis 1 represents the success of planned change whilst axis 2 shows the frequency of behavioural MCS. This is how the change came about:

- successfully and with the use of control systems (I quadrant, top right, in which the greater part of the energy companies are present and a good part of LPT);
- With the use of control systems and little success (II quadrant, upper left, in which some transport companies are present);
- without the use of control systems and without success (III quadrant, lower left, in which a small number of transport companies are present);
- with success and little use of control systems/monitoring (IV quadrant, lower right, few energy companies)

## 5. CONCLUSIONS

Italian PU has been involved in a more or less intense modification of the behavioural regulations of performers, orientations, underlying culture and regulation (38). The analysis of utility population in energy and transport sectors has confirmed that the management of these organisations is developing strategy-based organisational changes consistent with the search for its own institutional legitimation (39). The purpose and characteristics of change management have amply been demonstrated as planned, with a marked orientation to compliance. In other words, managers implement change processes to sustain legitimation targets, apart from or despite the questions of technical efficiency or qualitative performance connected to the user's requirements and/or the community (40). In said prospect the management seems to act within a governance stage of the organisational change which Sprindal and Mador (41) would call semi-institutionalisation, that is introductory to a future sedimentation of the field characters; a phase prior to actual substantial processes of PU privatisation and in which the coercive and imitative pathways configure as the prevalent reference of managerial control (42). This phase would be in line with the uncertain scenario still characterising local public utility markets, whose regulatory framework does not seem to have reached an adequate level of stability. With respect to governance and control instruments of the change processes, the diffusion of MCS both in LPT and particularly in energy supply is above all linked to the use of an integrated system of incentive-related mechanisms and also empowerment. The success of change in utilities results being a style of fundamentally participative management change and the search for response, mostly based on pay incentives, career advancement prospects and empowerment. A gradual shift from 'management control' is therefore noted (in the strict sense of the word) to commitment management aimed at aligning the dependents' interests with those of the managers, through the incentive of new competitive, financial and social pressures.

The main limit of the study is strangely and paradoxically to do with its purpose: exploring the behaviours and choice of the management with respect to the objectives of the change and the instruments used. In other words, adopting a methodology well-consolidated in literature (43), choice was made to single out the managers as the privileged target of the survey, choosing to have the interviewed, singling out the objectives, the actions and the organisation change results. As indicated in the methodology section of this contribution, the deterring effect linked to the self-compilation of the questionnaires was partly avoided by using control questions on the variables taken into exam. Furthermore, a possible development in research may anticipate resorting to different indicators to evaluate the dependent variable, availing oneself of performance measures of the quantitatively measurable change.

## REFERENCES

- [1] Martinez, M. (2000), *I modelli organizzativi e contrattuali per la pianificazione, regolazione costruzione e gestione dei sistemi di trasporto pubblico locale*. In Cesit, Organizzazione e competizione nel trasporto locale in Europa, Gangemi, Roma.
- [2] Greenwood R., Suddaby R. (2006), Institutional Entrepreneurship in Mature Field: the Big Five Accounting Firms, *Academy of Management Journal*, 49(1), pp. 27-48.
- [3] Lounsbury M. (2007), A Tale of Two Cities: Competing Logics and Practice Variation in the Professionalizing of Mutual Funds, *Academy of Management Journal*, 50(2), pp. 289-307.
- [4] Mercurio R., Martinez M. (a cura di) (2009), *Modelli di Governance e Processi di Cambiamento Organizzativo nelle Public Utilities*, Franco Angeli, Milano.
- [5] Beretta S., Pecchiari N. (2007), *Analisi e valutazione del Sistema di Controllo Interno*. Il Sole 24 Ore Libri.
- [6] Cuganesan S., Donovan J. (2011), Investigating the links between management control approaches and performance measurement systems, in Marc J. Epstein, John Y. Lee (a cura di), *Advances in Management Accounting*, 19, Emerald Group Publishing Limited, 173-204.
- [7] Reay T., Hinings C.R. (2009), Managing the Rivalry of Competing Institutional Logics, *Organization Studies*, 30, 629-652.
- [8] Thornton P.H., Ocasio W., (2008), *Handbook of Organizational Institutionalism*, Sage.
- [9] Scott W.R. (2008), *Institutions and organizations: Ideas and interests*, Sage, Thousand Oaks, CA.
- [10] Van de Ven, A.H., Hargrave, T.J. (2004), *Social, technical, and institutional change*. In M. S. Poole, & A. H. Van de Ven (a cura di), *Handbook of organizational change and innovation*. New York: Oxford.
- [11] Deephouse, D.L. (1996), Does isomorphism legitimate?, *Academy of Management Journal*, 39 issue 4, 1024-1040.
- [12] Purdy J., Gray B. (2009), Conflicting Logics, Mechanisms of Diffusion, and Multilevel Dynamics in Emerging Institutional Fields, *Academy of Management Journal*, 52(2), 355-380.
- [13] Greenwood R., et al., (2009), The Multiplicity of Institutional Logics and the Heterogeneity of Organizational Responses?, *Organization Science*, 1-19.
- [14] Giddens, A. (1986), *Constitution of society: Outline of the theory of structuration*, University of California Press.
- [15] Van de Ven, A.H., Poole, M.S. (1995) Explaining development and change in organizations, *Academy of Management Review*, 20, 510-540.
- [16] Thoenig, J.C. (2002), Institutional theories and public institutions: traditions and appropriateness', in B. Guy Peters e J. Pierre (a cura di ), *Handbook of public administration*. Londra: Sage, 127-197.
- [17] Reay T., Goodrick B., Delmestri G., Nicolini D., Adolfsson P., Lindberg K. (2009), *Institutional Logics and Material Practices: International Comparisons of Retail Pharmacy*, Proceedings della Conferenza EGOS 2009.
- [18] Cristofoli D., Valotti G., (2007), Proprietà e corporate governance delle public utilities. Tra autonomia di impresa e tutela dell'interesse pubblico, *Economia & Management*, n.4, 75-92.
- [19] Garlatti A. (2005), *Scelte gestionali per i servizi pubblici locali. Criteri aziendali e quadro normativo*, CEDAM, Padova.
- [20] Osculati, F. e Zatti, A. (2008), *Local public transport in Italy: the long and tortuous way of a tentative reform*, Ciriec Working paper n.8.
- [21] Gilardoni A., Carta M. e Romè L., I benefici dei processi di aggregazione delle utilities italiane: le opinioni dei protagonisti, *Management delle Utilities*, 1/2009.
- [22] Elbashir M. Z., Collier P. A., Sutton S. G. (2011), The Role of Organizational Absorptive Capacity in Strategic Use of Business Intelligence to Support Integrated Management Control Systems, *The Accounting Review*, 86 (1), 155.

- [23] Chenhall R.H., Hall M., Smith D. (2010), Social capital and management control systems: A study of a non-government organization, *Accounting, Organizations and Society*, 35 (8), 737-756.
- [24] Simons R. (2000), *Performance measurement and control systems for implementing strategy*, Prentice Hall, Englewood Cliff, NJ.
- [25] Anthony, R., Govindarajan, V., 2007. *Management Control Systems*, Chicago, Mc-Graw-Hill IRWIN.
- [26] Chenhall R.H. (2003), Management control systems design within its organizational context: findings from contingency-based research and directions for the future, *Accounting, Organizations and Society*, 28, 127-168.
- [27] Horngren C., Sundem, G., Stratton W. (2005), *Introduction to Management Accounting*, New Jersey, Pearson.
- [28] Gandini G. (2004), *Internal auditing e gestione dei rischi nel governo aziendale*, Franco Angeli, Milano
- [29] Dezi L., Gilardoni A., Miglietta A. e Testa F. (2005), *Economia e Management delle Imprese di Pubblica Utilità-Contesto Competitivo e governance delle Public Utilities locali*, CEDAM, Padova.
- [30] Lorange, P. e Murphy, D. (1984) Considerations in implementing strategic control, *Journal of Business Strategy*, 4(4), 27-35.
- [31] Bosetti L. (2008), *Corporate Governance and Internal Control: Evidence from Local Public Utilities*, 2<sup>nd</sup> European Risk Conference "Risk and Governance".
- [32] Ford M.W., Greer B.M. (2005), The relationship between Management Control System usage and Planned Change Achievement: an exploratory study, *Journal of Change Management*, 5(1), 29-46.
- [33] Kotter, J.P., Schlesinger, L.A. (1979), Choosing strategies for change, *Harvard Business Review*, 57(2), 106-114.
- [34] Anthony R.N. (1965), *Planning and control systems: a framework for analysis*, Harvard University, Boston, MA.
- [35] Van De Ven A.H. e Poole M.S. (1995), Explaining Development and Change in Organizations, *Academy of Management Review*, 20(3), 510-540.
- [36] Simons, R. (1995), *Levers of Control*, Harvard Business School Press, Boston.
- [37] Di Maggio P.J., Powell W.W. (1983), The iron cage revisited: institutional isomorphism and collective rationality in organizational field, *American Sociology Review*, 48, 147-160.
- [38] Piacenza, M. (2006), Regulatory contracts and cost efficiency: stochastic frontier evidence from the Italian Local Public Transport. *Journal of Productivity Analysis*, 25, 257 -277.
- [39] Thoenig, J.C. (2000), New institutionalism and organizational theory: a review article, *Public Administration*, 78, 2, 455-460.
- [40] Fraquelli G. (2007), Aspetti dimensionali ed efficienza nei servizi di pubblica utilità in Italia, *L'Industria*, 1, 205-228.
- [41] Springdal K., Mador M. (2004), Organizational Changes Resulting from the Privatization of State Enterprises, *Public Money & Management*, 69-80.
- [42] Mecurio R., Martinez M., Moschera L. (2000), *Le imprese di trasporto ferroviario in Europa: pressioni istituzionali e nuove forme organizzative*, in Maggi B. (a cura di ), *Le sfide organizzative di fine secolo ed inizio secolo. Tra postfordismo e regolazione*. Etas, Milano.
- [43] Corbetta P. (2003), *La ricerca sociale: metodologia e tecniche*. Il Mulino, Bologna.
-

**Table n. 1 - La ripartizione delle aziende per numero di dipendenti**

<b>N. employee</b>	<b>n. utilities</b>
100-200	14
201-300	14
301-400	7
401-500	8
501-600	3
601-700	1
701-800	3
801-900	1
901-1000	1
>1000	12
<b>Totale</b>	<b>64</b>

**Table n. 2 - Business allocated according to turnover**

<b>Sales (€)</b>	<b>n. utilities</b>
<10 MLN	7
>10MLN<50MLN	27
>50MLN<100MLN	13
<b>Totale</b>	<b>64</b>

**Table n. 3 - Questionnaire Answered**

	<b>n. utilities</b>
<i>President</i>	1
<i>Managing Director</i>	8
<i>General Director</i>	14
<i>Human Resources Manager</i>	32
<i>Organisational Manager</i>	9
<b>Total</b>	<b>64</b>

**Table n. 4 – Statistic of continuous variables**

<b>Indipendent variable</b>	<b>N. utilities</b>	<b>(<math>\mu</math>)</b>	<b>(<math>\sigma</math>)</b>	<b>Minimum</b>	<b>Maximum</b>
<b>PAY INCENTIVES</b>	64	0,490	0,256	-0,125	0,875
<b>CAREER ADVANCEMENT</b>	64	0,371	0,230	0,125	0,875
<b>EMPOWERMENT</b>	64	0,517	0,256	-0,125	0,875
<b>FLEXI WORKING HOURS</b>	64	0,144	0,067	0,125	0,375
<b>OUTCOME MONITORING</b>	64	0,413	0,196	0,167	0,833

**Table n. 5 – T-Student**

	PAY INCENTIVES	CAREER ADVANCEMENT	EMPOWERMENT	FLEXI WORKING HOURS	OUTCOME MONITORING
PAY INCENTIVES	1,00				
CAREER ADVANCEMENT	0,30	1,00			
EMPOWERMENT	0,29	0,32	1,00		
FLEXI WORKING HOURS	-0,07	0,07	-0,22	1,00	
OUTCOME MONITORING	0,07	0,08	0,04	0,03	1,00

**Table n. 6 - T-student**

	PAY INCENTIVES	CAREER ADVANCEMENT	EMPOWERMENT	FLEXI WORKING HOURS	OUTCOME MONITORING
PAY INCENTIVES	99,99				
CAREER ADVANCEMENT	2,51	99,99			
EMPOWERMENT	2,43	2,68	99,99		
FLEXI WORKING HOURS	-0,60	0,55	-1,78	99,99	
OUTCOME MONITORING	0,59	0,63	0,35	0,24	99,99

**Tavola n. 7 - Deviation dependent variables**

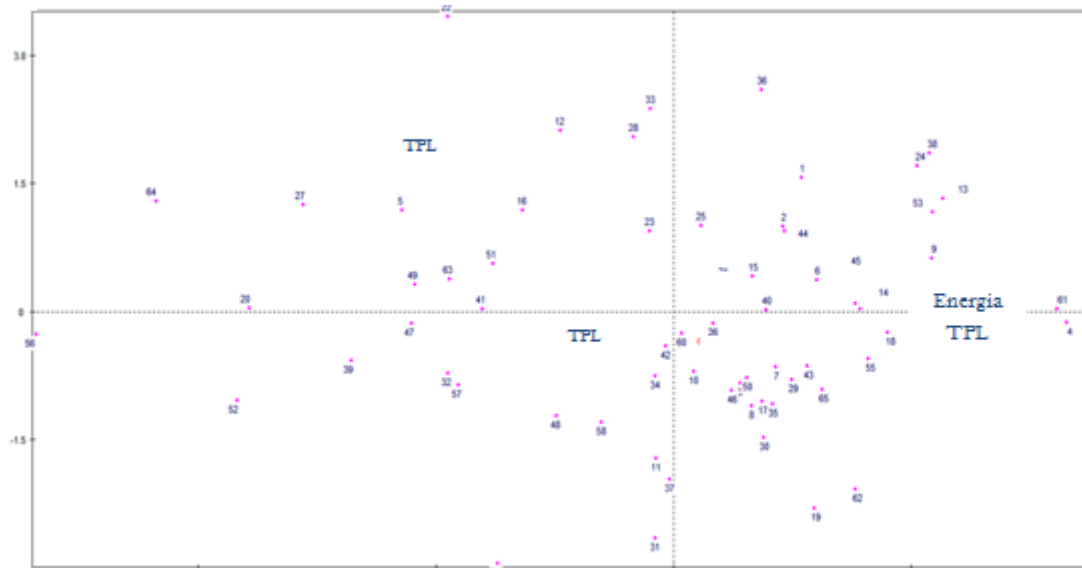
Source	Devianza	Df	P-Value
Model	25,143	12	0,0142
Residual	56,6487	52	0,0358
Total (corr.)	81,7917	64	

**Tavola n. 8 - Linear Regression Model (Max Likelihood)**

	ODDS RATIO	CHI-SQUARE	P-VALUE
PAY INCENTIVES	9,43725	7,64053	0,0057
CAREER ADVANCEMENT	1,65105	0,300304	0,0837
EMPOWERMENT	1,74068	1,31059	0,0193
FLEXI WORKING HOURS	0,1949	4,54404	0,0330
OUTCOME MONITORING	0,396766	1,59217	0,2070



**Table n. 9** - *Graph of individuals*



**Coventry University Business Improvement Training (CUBIT)  
The application of Lean Thinking within the UK university sector**

Dr Steve Martin  
Head of Department (Engineering Knowledge Management)  
[s.martin@coventry.ac.uk](mailto:s.martin@coventry.ac.uk)  
Coventry University, Coventry, CV1 5FB, UK

Wendy Garner  
Principal Lecturer  
[w.garner@coventry.ac.uk](mailto:w.garner@coventry.ac.uk)  
Coventry University, Coventry, CV1 5FB, UK

Dr Ivan Arokiam  
Senior Lecturer  
[i.arokiam@coventry.ac.uk](mailto:i.arokiam@coventry.ac.uk)  
Coventry University, Coventry, CV1 5FB, UK

Ian Wilson  
Senior Lecturer  
[i.wilson@coventry.ac.uk](mailto:i.wilson@coventry.ac.uk)  
Coventry University, Coventry, CV1 5FB, UK

## **Abstract**

Within the UK, the recent changes announced through the Browne report: The independent review of higher education funding and student finance published in October 2010 and the outcome of the governments comprehensive spending review and the reform of public services announced in the same month has created an absolute imperative for universities to improve their competitiveness. Not surprisingly this has prompted institutions to reassess their provision of services: what they provide and how they provide it, and to seek more effective ways of meeting the needs of their 'customers' and to seek to continuously improve on this as expectation among students rises.

Over the last few years a small number of UK Universities have been developing their own approach to continuous quality or process improvement as a means by which they can improve or maintain their competitive position utilising Lean and Systems Thinking to support business improvement. However, unlike Lean within the manufacturing sector, or even some parts of the service sector, Lean practise in higher education is both immature and dislocated with no single proven improvement approach or model recognised. What is generally agreed however, is that although 'improvement projects' can deliver quick benefits, for these to be sustainable requires a culture of continuous quality improvement to be created.

University Modernisation Funding - provided by UK Government to support a sustained increase in student places at universities and colleges by adopting greater savings and efficiencies - has been used to create a business improvement training programme. The CUBIT initiative is this university's approach to sharing Lean and Quality improvement knowledge throughout the organisation and establishing a community of quality improvement practitioners. This paper describe this programme, in particular the development of a web-

repository of tools, techniques, case studies, improvement examples and discussion forum that underpins the more traditional continuous professional development approach. Examples are provided to illustrate the benefits gained, conclusions drawn and lessons learned to-date from this exciting ongoing initiative.

Key words: Lean, Value Stream Mapping, Value added, Waste

## CASE STUDY

### 1. Introduction

In their seminal book 'The Machine That Changed the World' Womack, Jones and Roos (1990) identified Lean as an alternative approach to Mass production and as a means of improving competitiveness. One, which if practised, would reduce significantly both the time taken to produce (lead-time) and the resources used to deliver the product. The principles of this approach have been used in both manufacturing industry and service sector organisations to focus on waste within current processes and through redesign and reorganisation create improvements that result in lower cost, increased quality, improved delivery and, increased morale within the organisation (SMMT, 2009), (New, 2009).

For manufacturing and repetitive manufacturing particularly, there has emerged and become established both a Lean methodology and a set of tools and techniques that can be reliably used to improve productivity and quality (Harrison, 1992) based largely upon the Toyota Production System (Monden, 1994) as evidenced by the plethora of industry examples of sustained Lean improvement available from practitioners, consultants and industry sector organisations over an extended period of time.

Just as the manufacturing industry sector is acknowledged as intensely competitive so the Public sector within the UK also operates within a competitive environment where there is increasing pressure to deploy scarce resources more efficiently and improve service delivery and thus to provide better value-for-money. However, unlike the manufacturing sector a culture of continuous improvement is not well established and no unified approach as yet has emerged to Lean implementation therefore although Lean in the Public sector is being practised it is acknowledged as lacking in maturity.

Radnor et al. (2006) in the report of the Evaluation of the Lean Approach to Business Management and its use in the Public Sector for the Scottish Executive Social Research makes clear the extent of the scope of Lean practises within the public sector, in Scotland at least, with examples and cases being provided from a wide variety of public services including Local Councils, Court Services, the Healthcare Sector, the Emergency Services as well as Further Education. One of the most comprehensive studies of lean implementation within the public sector undertaken to-date this work provided the following conclusions that:

- Lean in the public sector can work but that it is not the adoption of Lean from manufacturing rather adaptations with no single dominant approach evidenced
- Lean in the public sector focussed at an operational level not a strategic level and not through the use of the tools developed specifically for manufacturing but by focussing on the principles of waste reduction, improving flow and developing an understanding of the customer requirements and a process view

- Variation is an inherent part of a service environment and that unlike in manufacturing it cannot be removed but instead needs to be managed while standardising the processes used
- Although evidence of the use of rapid improvement events showed tangible benefits and started to generate an improvement culture Lean is unlikely to be sustained unless continuous improvement becomes an integral part of the organisation's cultural norms
- The habit of continuous improvement can only be maintained through clear communication, ownership of improvement throughout the organisation and management commitment linked to organisational strategy and leadership

Having stated that within the public sector the adoption of Lean principles and practices is relatively new, the healthcare sector and in particular the National Health Service (NHS) within the UK Public sector has led on a sector driven approach to encourage and support the adoption of Lean to improve the quality of care for patients and also to meet government set national targets. In particular National Health Service (NHS) Hospital Trusts faced with increased patient choice and the need to satisfy the fiscal requirements of their Strategic Health Authority have embraced the concept and principles of Lean, with many now engaged in Lean transformation, (Jones & Mitchell, 2006).

The NHS Institute for Innovation and Improvement espouses Lean for use within Healthcare and in doing so through its productive series (the productive ward) has created a repository of training materials, tools and techniques including many examples and case studies of Lean good practice within healthcare which, demonstrate the effectiveness of this approach to continuous improvement (NHS Institute for Innovation and Improvement, 2008) However, according to Brandao de Souza (2009) much of the evidence of improvement to-date focuses on local (area or department) redesign or reorganisation through the use of 5s or visual management techniques rather than on the end-to-end processes that require significant synchronisation and control of activities along the patient pathway. This approach however, has been supported by a Lean website that provides for tools and a technique modified from manufacturing industry use to align more strongly with Healthcare requirements and terminology and provides examples of these in use within sectorial situations. Further sector support is provided (at a cost) by experts in Lean transformation who can train and coach local hospital or departmental teams.

In 2006 Cardiff University identified Lean Thinking as the means by which they would engender a culture of improvement within their own institution and with the assistance of the Lean Enterprise Research Centre (based at Cardiff University) undertook research into Lean within Higher Education (HE). Reflecting on this work at the first Lean Thinking in Universities Event (Cardiff, 2008) identified the following conclusions:

- there is much potential to improve customer value and eliminate waste within the University
- staff have shown enthusiasm however, it is increasingly evident that the academic environment is less familiar to change than many conventional lean environments
- That strategic structures are bureaucratic and seem unaccustomed to rapid change
- change can only ever occur at the rate of volition within the University and much work is still to be done in terms of encouraging employee engagement at some levels

At that time the economic imperative did not perhaps exist to 'attack waste' but for Cardiff and later for other universities the focus was on improving the student experience as universities sought to improve their league table positions. In the wake of the Browne report however, and the Governments comprehensive spending review in late 2010 that imperative does now exist and the ability to organise and manage effectively to deliver 'customer' satisfaction economically is high on the sector agenda. Two, more recent conferences; 'Lean in Universities' (St Andrew's University, November 2010) and, 'Towards the 'Agile' University - Implementing Lean in Higher Education' (Portsmouth University, March 2011) devoted to the discussion of Lean in HE attracted strong participation from the sector and shared examples of Lean thinking and Lean in practise within the UK provided evidence of the various approaches being adopted.

Informed by the approach of colleagues in Cardiff and St Andrews universities, and more widely from the work within the public sector, Coventry University Lean principles have been applied to institutional processes since 2008. This has resulted in an initiative CUBIT: Coventry University Business Improvement Training aimed at creating a community of improvement practitioners supported by an improvement knowledge portfolio.

## **2. The CUBIT training and development programme**

The goal of the CUBIT programme is to develop optimised operating platform across various functions that will directly or indirectly contribute to the corporative objectives of the University in the most effective manner. Due to the magnitude of the functions, service type nature and their cross-involvement, it had been vital to follow a formal methodology that would allow the achievement of an effective and sustainable system. Piercy and Rich (2009) have stressed the need for the use of a comprehensive training methodology due to its identification as one of the key factors cited for the success of Lean implementation in similar environments. More particularly this had been especially necessary due to the majority of the functions and the learner practitioners (participants) not being from, or exposed to, a Lean orientated background.

The approach adopted has been that every workshop sessions was made-up of three groups of four or five participants. The groups were formed from participants from the same or across functions depending on requirements assessed prior to the enrolment. The aim of the workshop was to cover key Lean and Agile concepts that would enable the delivery of an optimised operating environment both within and across existing University functions.

The programme required participants to identify a key issue of concern within their work environment prior to engaging in the programme. The identified problem would be worked through alongside the programme, identifying and applying appropriate tools and concepts learned. Additional periods of staff support outside the formal programme were also made available to participants working on their particular issue. At the end of the programme participants were able to quantify the extent and cause of the issue and develop and evaluate solutions to target it and were required to present their findings and solutions to their sponsors. It is considered that this approach had a robust underpinning because:

- There were results to be produced within their work function at the end of the programme. This helped participants to fully participate and understand the materials covered during the course of the programme.

- Areas covered were applied at their soonest, minimising the need for detailed revision. This also helped to understand the material covered better as the thought process of how to apply each of the area to their problem is initiated from the onset of delivery and any material not fully understood is clarified with immediate effect.
- Lean leaders could be identified who could both champion and promote the thinking and practise of Lean and business improvement and act as mentors to colleagues and ultimately as trainers within the programme helping to extend its reach.
- Awareness and adherence to the corporate plan is pivotal towards the University achieving the desired competitive advantage. The corporate plan is used as the foundation upon which the programme is built.

Not only having the top level approach is vital to achieving the maximum efficiency to delivery of the programme but also the constituent of the programme. It was perceived as vital to follow a methodology that would enable participants to gain the most from the workshop sessions. This is especially important due to participants being from a background with limited Lean knowledge.

The A3 methodology is an effective tool for providing a deeper understanding to the optimisation process as a whole and is in line with Sobek and Jimmerson (2004). The A3 methodology was chosen as the framework to provide the training due to the following key benefits in that it:

- Provides a systematic method to involving employees, identifying, analysing and solving problems and especially delivers an added advantage to individuals from a non lean background. Lodge & Bamford (2007) have pointed out the importance of some of these qualities to achieving success in Lean implementations.
- Prevent individuals from jumping to solutions without following the necessary steps to achieving a robust solution.
- Helps functional leaders to get a full insight into existing issues, that would in turn enable them provide the appropriate support towards developing and implementing mechanisms for optimisation.
- Would demonstrate new leaders on how to lead and this in turn would aid them with skills to mentor team members to also becoming leaders.

The tools and concepts were organised to fall under the main categories of the A3 methodology. This is shown on figure 1.

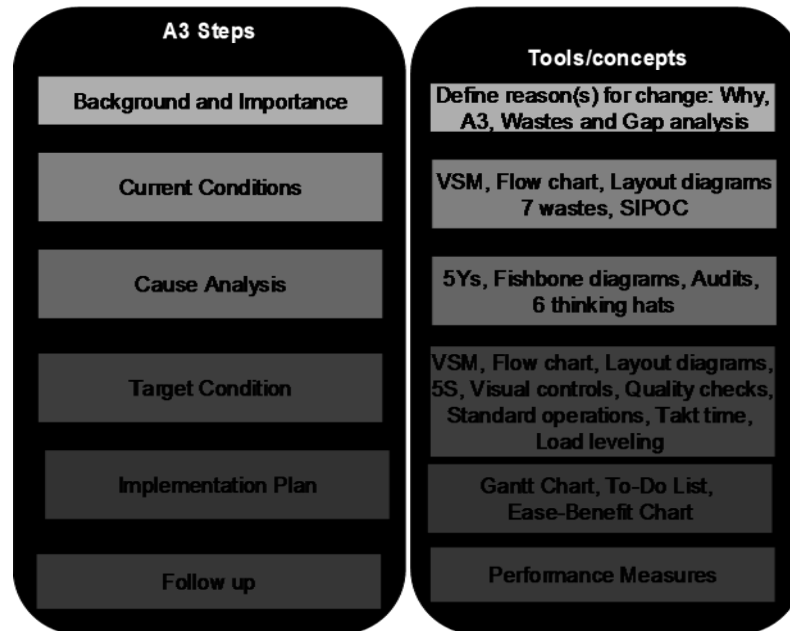


Figure 1: A3 stages and areas covered as part of these stages

Each of the stages shown on Figure 1 was covered by the training programme. The emphasis on the importance of the programme was communicated to the participants, at the first session, with the attendance of senior leadership providing an introduction, along with coverage of the corporate plan. One of the main reasoning behind embedding the corporate plan was to enable participants to get an understanding of value adding activities to the organisation. It is not a straight forward task to directly apply the concept of ‘waste’ within a complex service environment where the principle customer is the student and many support areas find it difficult to relate their service as adding value directly to the student experience. Thus, within the programme emphasis has been placed on appropriately identifying what constitutes added value and what therefore constitutes waste.

A number of other features mentioned below have been incorporated as part of the programme to ensure its effectiveness:

- The sessions have been incorporated with practical examples to activities. This provides an active learning environment and favoured by Benjamin and Keenan (2007) in that it allows managing implementation problems successfully and fully achieving the intended results.
- A variety of delivery methods are used. This promotes effective learning and is reinforced in Biggs (2003).

- Catalysts that promote surface learning have been avoided in the design of the programme. This enables participants to effectively apply concepts learnt to problems within and beyond their working environment.
- Opportunity to use reflective practice is embraced by the programme and its contribution to effective optimisation is to a certain extent reinforced by Orange *et al.* (1999).
- Use of problem examples that stretch across the sections covered by the A3 methodology, thus providing participants a vision of how the various sections can be applied.
- The use of A3 provides a better mode of two-way communication, as mentioned by Loyd *et al.* (2010), enabling participants to be good problem solvers and mentors to provide the appropriate support.

Adjunct to and to further enhance and provide continuity to the programme is an e-knowledge area (a web-repository) where participants can create refinement projects, revisit materials, share ideas and network with other members of the improvement community has been developed and implemented.

### **3. CUBIT web repository**

Oliver and McLoughlin (1999) suggest that “Web-based course support systems are essential for supporting online teaching and learning environments” but go on to state “when we set about to examine how well Web-based systems support effective learning, the outcomes are far less automatic and are dependent on teacher input and activity”, and with this in mind the web based lean repository has been designed not as the mode of delivery but as an extension to the facilitation of imparting knowledge, reporting findings, tracking progress, collecting feedback and input both internal and externally to the learner practitioners.

The initial proposal for the website only had descriptions of the tools and techniques using standard manufacturing terminology, bland colouring, none interaction format which did not allow downloading of information, all posted on a front page and a contact page showing the email address to contact for further information, to what we see today (figure 2.) which is a fully interactive site. The development of the site has been progressive and is itself subject to ongoing continuous improvement.



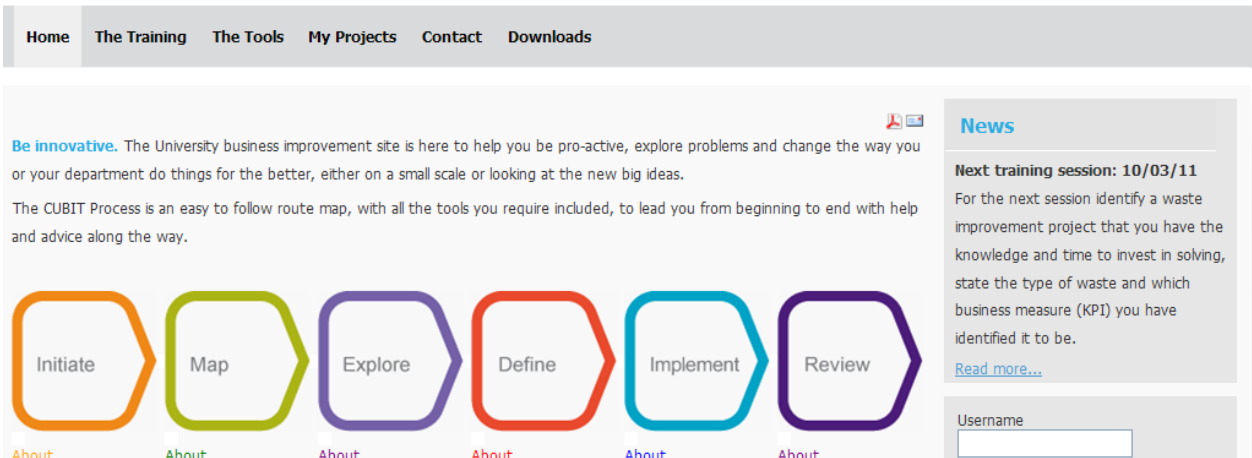


Figure 2. CUBIT website front page

The Web site allows the participants now to view the classroom training materials for each of the sessions as a point of reflection and confirmation of the hard copy notes given out at each session. This also allows participants who have missed a training session to catch up. This will be further enhanced with the video/audio recording of each of the sessions in real time to further allow explanation of the session notes.

The Website is easy to navigate with each section reflecting a defined stage of the A3 problem solving methodology but with a modified description to allow differentiation between manufacturing terminology and that of a service functions understanding of the activities.

Each section is supported with a clear description of the stage activity and the documentation to facilitate the completion of the problem resolution activities. Additional information around the tools and techniques are also located on the website in the respective sections that are not produced and given as part of the training delivery sessions, this was a clear decision to reduce the printing costs along with the overloading of paperwork to the candidates.

The current incarnation of the website has an added project management function which is used to collate the projects data for each of the stages of the A3 process which can be posted by any of the problem resolution team, also an additional function of posting discussions between the team members who may not be on the same site or even in the same country. This function it is expected will facilitate the development of the individual projects and also be a reference for future projects within the university and possibly to the outside community. The site allows filtering to different user groups; marketing and dissemination to external interests, performance monitoring for senior colleagues, specific areas for internal interests and full functionality to internal participant learners including a blog page.

A future enhancement will be a key word or phrase search function to identify projects carried out and posted on the site by problem description, e.g. *'failing service level agreement'* or service function description e.g. *'Human Resource Department'* or a combination of both.

#### 4. An example improvement activity

The focus of the first workshop was on the need for change and to understand the difference between Value Added activities and Non value added activities. When Value Add is defined at a high company level, the servicing departments can quickly conclude that their contribution is essential non value add and this can be perceived as very sensitive and demotivating.

Using HE as an example;

at the university level Value Added (VA) can be defined as

- Disseminate knowledge through education programmes
- Apply knowledge through research
- Create new knowledge through research
- Student satisfaction

The service departments should view their roles as facilitators of VA, without this role the true HE VA would not be possible. Table 1 shows how the HE service departments can be compared to the typical lean view within manufacturing:

	<b>Manufacturing</b>	<b>Higher Education: service departments</b>
VA	Transform material closer to customer requirement	Impart, apply, develop Knowledge Positive customer service experience
Required to	Make value flow	Make value flow
Essential facilitating equipment / service	Machine Tools	Service infrastructure <ul style="list-style-type: none"> <li>- <i>ITS</i></li> <li>- <i>Business development</i></li> <li>- <i>HR</i></li> <li>- <i>Finance etc</i></li> </ul>
Required to be	Efficient, accurate, capable, state of the art technology etc	Efficient, accurate, capable, state of the art technology etc

Waste	Scrap, waiting, inventory, motion, transport, over production, over processing SWIMTOO	Inventory, Opportunity lost, Unclear communication, Movement, error, delay, duplication IOU MEDD
Required to	Reduce or eliminate	Reduce or eliminate

Table 1. Comparison of Lean in Manufacturing and Service

This can be summarised for both manufacturing and service scenarios as:

- Value Add to be completed to the highest standard
- Facilitating Equipment/service department to be the most effective
- Waste to be removed

The focus for improvement within the office environment at Coventry University was therefore directed to waste elimination and creating more effective service systems. The first step in this process is to understand and critically evaluate the current state. Identifying and analysing a process from end-to-end was a novel approach to administrative staff. And the use of Value Stream Mapping (VSM) and Supplier, Input, Process, Output, Customer (SIPOC) diagrams was deemed very useful to help with the logical understanding of the process and resolving issues.

SIPOC diagrams helped to identify where the inputs and outputs were the main issue, rather than the process itself. The VSM was adapted to identify different types of delays in the process. A manufacturing VSM visually shows the delays caused by inventory and queues. This is not always applicable in the office environment and was adapted to visually show where other delays might occur. Sobek and Wemerlov (2002), define the negative consequences of functional departments and include; long lead-times, opportunities for mistakes at 'hand offs', unnecessary approvals, inconsistent goals, too many check points and lack of understanding of the whole process. These characteristics plus a number of internally generated criteria; missing information, conflicting priorities, insufficient capacity, work-load peaks, multi-department data requirements were used to identify the 'opportunity' for delay within the process and visually annotated on the VSM.

The collection of data was encouraged to validate the maps and was then used to evaluate the potential savings if waste could be eliminated. For many of the administrative staff attending the workshops this was a revelation. A simple example shows the time used by 15 members of maintenance staff who were required to walk back to the tea room for a coffee break. Assuming 2 coffee breaks each day with a 15 minute walk to and from the tea room for each break gives

15 staff \* 2 breaks \* 15 minute walk \* 2 (to and from journeys) = 15 hours per day.

This equates to the equivalent of 2 additional members of staff being employed to cover current workload. A simple, low cost solution to this could be provision of hot drinks at the location of the maintenance work by flasks or coffee vouchers for local facilities.

Sobek (2008) describes the challenge of writing an A3 report is to synthesize and distil a lot of information down to salient points. As manufacturing engineers we have been trained to think in a logical manner, solve problems and look for continuous improvement. Questioning processes to make them more efficient and effective is second nature to trained engineers. However office and administrative staff typically have a different background and although very organised by nature, they do not necessarily have a skill-set or confidence to challenge the working processes. The CUBIT workshops have supported the development of staff in these skills, promoted and encouraged the improvement mind-set. The first two cohorts consisted of employees from across the campus who challenged a current practice pertinent to their area and identified a solution with the following results (table 2):

Subject	Tools used	Type of problem identified through A3	Resolution
Maintenance: Allocation of job tickets	VSM, 5 why's	<b>Process Issue</b> Excessive walking caused by lack of planning of the location of subsequent jobs	Cluster jobs to locations
Timetabling	VSM, 5 why's	<b>Process Issue</b> Lack of timely information	Through delegated responsibility, create a need to provide information
Student records	Process flow chart, 5 why's	<b>Quality Issue</b> Human error causes incorrect data input and generates high level of rework	Introduce improved 'poke yoke'
Invoicing	SIPOC, 5 why's	<b>Input data Issue</b> Data received in wrong format creates a high level of over processing and rework	Introduce a template for receiving information.
Training evaluation sheets	VSM, 5 why's	<b>Process Issue</b> High level of over processing due to format of data and low technology	Introduce better data capture through new technology already available in university (share best practice)
Maintenance service request	VSM, 5 why's	<b>Process and Input data Issue</b> Insufficient information collected from customers creates high level of rework	Automatic check list for customers emailed, script of service desk staff, better guidelines published on the intranet
IT equipment purchase	VSM, 5 why's	<b>Process and Input data Issue</b> Often reactive response required and each purchase requires individual authorisation	Create proactive list of annual IT requirements and authorise in advance (high % or workload) leaving time to respond better to reactive requirements
Student records	5 why's	<b>Process and Input data Issue</b>	Better planning of default

		Default module cohort not always correct and rework caused by re-entering the module cohort (10 per student)	cohorts to cover the majority of students.
--	--	--	--

Table 2. Current challenges and proposed interventions

The next three cohorts comprised of employees from a single department but offering multi-disciplinary skills from within that department. The mandate for these cohorts was to improve the effectiveness of the department. This is still ongoing but three distinct levels of issues have been identified so far:

**High level Issues:** the structure of department to optimise voice of the customer and voice of the process

**Departmental Issues:** the issues shared across all members of staff within the department such as computer systems, physical working arrangements and communication.

**Process issues:** the identification of waste within each process.

This demonstrates that the inclusion of all members of a department results in the opportunity for both the detailed process improvement and also the more holistic interventions. In fact Sobek (2008), states that A3 reports cannot be drafted in isolation and continues to argue that writing the A3 report is important but not nearly as important as the activities executed in the creation of the report and the conversations that the report helps to generate. Solving the problem is obviously important but the process by which the problem is solved is just as important as it enhances the problem solvers skills and confidence.

## 5. Conclusions drawn and lessons learnt to-date

This paper has detailed the development and early implementation of a sustainable improvement culture within the University, supported by the use of the A3 reporting methodology. Though the process is deemed to have emerged successful it is acknowledged that it has potential to be refined further by considering additional components and it is therefore not presented here as a complete and fully understood solution to continuous improvement within HE.

Some of the vital challenges that may become points of focus for future work include: The use of standard value stream maps for visualising current process state may not always be most appropriate in this (HE) environment due mainly to the varying processing times of activities forming the end-to-end process. This can present a barrier towards rapidly deciding on what level of information is collected. It also presents the potential for collecting and analysing data that may marginally contribute to the improvement to be achieved as opposed to the time involved. There is also the risk that if sufficient level of information is not collected and appropriately analysed, the solution becomes unreliable. This requires a framework for quickly establishing the level of information to emphasise key findings, leading the way towards the development of robust solutions.

Service environments themselves present the challenge of complexity; individuals having relationship to a number of parallel process streams. This raises the question of whether it would be beneficial to establish additional parameters that would better represent the capacity

availability, providing a more fully integrated overview. This would allow developing solutions that may be more resilient to the dynamic nature of this environment.

It is considered highly beneficial to implement changes alongside and within a short timeframe of the completion of the training development as participants would have increased drive for transforming their system. This would also ensure that individuals have the opportunity to apply the optimisation concepts immediately allowing better retention of knowledge, paving the way towards a sustainable optimisation culture. The challenge as with most organisations is the 'routine work' has also to be completed. This requires the management to adopt a strategy that can strike an appropriate balance on scheduling the two tasks while still ensuring that the improvement process is an inclusive one.

## References

Benjamin, C. and Keenan, C. (2006), Implications of introducing problem-based learning in a traditionally taught course, *Engineering Education* 1, (1) 1-7

Biggs, J. (2003), *Teaching quality learning at university*, 2<sup>nd</sup> Ed, SRHE & Open University press Buckingham

Harrison, A. (1992) *Just in time manufacturing: In perspective*. Glasgow: Prentice Hall International

Hyer and Wemerlov, 2002, *The office that Lean Built*, IIE Solutions

Jones & Mitchell, 2006, *Lean thinking for the NHS* Daniel Jones and Alan Mitchell, Lean Enterprise Academy UK report 2006

Lodge, A. and Bamford, D., (2007), Health service improvement through diagnostic waiting list management. *Leadership in Health Services*, 20, 254-265.

Loyd, N., Harri, G. A. and Blanchard, L., (2010), Integration of A3 Thinking as an Academic Communication Standard, *Proceedings of the 2010 Industrial Engineering Research Conference*

Luciano Brandao de Souza 2009 *Journal: Leadership in Health Services*, Year: 2009  
Volume:22 Issue:2 Page:121 – 139, ISSN:1751-1879, Publisher: Emerald Group Publishing Limited

Moden, Y. (1994) *Toyota production system: An integrated approach to just in time*. 2<sup>nd</sup> edn. London: Chapman Hall

New, 2009

<http://www.autoindustry.co.uk/publications/product/?p=QualityCostDeliveryasectorstudy>

Oliver, R. & McLoughlin, C. (1999). Curriculum and Learning-Resources Issues Arising From the Use of Web-Based Course Support Systems. *International Journal of Educational Telecommunications*, 5(4), 419-435. Charlottesville, VA: AACE

Orange, G. Cushman, M and Burke, A., (1999), COLA: a cross organisational learning approach within UK industry, 4th international conference on networking entities (Neties'99), 18-19 March 1999, Donau-Universität, Krems, Austria

Piercy, N., & Rich, N., (2009), Lean transformation in the pure service environment: The case of call service centre. *International Journal of Operations & Production Management*, 29, 54-76

Radnor, Z. et. al., 2006, Evaluation of the Lean Approach to Business Management and its use in the Public Sector, Scottish Executive.

Shook, 2008, *Managing to Learn*, The Lean Enterprise Institute

SMMT, 2009

<http://www.autoindustry.co.uk/publications/product/?p=QualityCostDelivery:Measuringmanufacturingperformance>

Sobek, D. K. and Jimmerson, C., 2004, A3 Reports: Tool for Process Improvement, Proceedings of the Industrial Engineering Research Conference, Houston

Sobek, D.K. ,2008, *Understanding A3 Thinking*, Productivity Press

Womack, Jones and Roos (1990) *The Machine that Changed the World*, Macmillan, New York, USA

# Maintaining ISO 9001 certification

## The case of Vietnam

Jacques Martin, Université du Sud Toulon-Var, France

[martin@wanadoo.fr](mailto:martin@wanadoo.fr)

Nguyen Minh Tuan, Business Development Solution Corp., Vietnam

[tuanguyenminh@hotmail.com](mailto:tuanguyenminh@hotmail.com)

### Introduction:

The number of ISO 9001 certified organizations passed the million mark in 2009 (ISO, 2010). The growth has been regular over the last twenty years, except in 2003, although the rate of growth has tended to slow down, in spite of the sustained growth in emerging economies, as the ‘certification market’ has become mature in the Western World.

The share of the Far East, with 37.4% of the total, has almost caught up with that of Europe with 47%. Vietnam is the country which has known the most rapid increase in the number of certified organizations (+ 197.96% between 2005 and 2009) among Far-Eastern emerging economies.

Many studies have been published over the last fifteen years on the reasons why organizations seek ISO certification and how they implement it (Buttle, 1997; Lung et al., 1999, Gotzamani, Tsiotras, 2002, Casadesus, Karapetrovic, 2005), but relatively few have focused on the issue of the maintenance of the Quality Management System (Gotzamani, 2005, Zeng et al., 2007). The main reasons why Vietnamese organizations are seeking ISO certification are similar to the ones already long identified (Anderson et al., 1999).

In 1986, the 6<sup>th</sup> National Party Congress approved a comprehensive economic renewal programme, known as “doi moi” (economic renovation), in three main directions: a shift from state-owned enterprises to multiple ownership forms in order to develop production and improve economic efficiency, the adoption of the market economy principles ensuring the autonomy of individual business organizations while the State kept control of macro-economic policies and the opening of the economy to the outside world which culminated with membership of the WTO in 2007. In 1988, the Law on Foreign Investment (amended in 2000) opened the economy to foreign direct investments and to the integration of the Vietnamese economy into the world economy obliging companies to meet international standards of quality. In 2006, Resolution 144/2006/QD-TTg extended the application of ISO 9001:2000 (then ISO 9001:2008 with Resolution 118/2009/QD-TTg) to public administrations. Today Vietnam is the third country with the biggest number of certified organizations, after China and South Korea, in the continental Far East (ISO, 2010).

In the early 1990s, Vietnamese companies were not really aware of the ‘objective’ reasons for and potential benefits of ISO certification. They jumped on the certification bandwagon without seriously considering the rationale for certification, just because “everybody else was getting registered”. With the increasing economic integration and the shift from central planning to a market economy, they realized that they needed to improve their effectiveness and efficiency to stay in the race and adopted ISO for that purpose mostly in a B2B context, strongly prompted, when not forced, by their international customers to get certification. In the years 2000, with the growing internationalization of the supply chain, Vietnamese companies, both as suppliers and customers, could only remain in the game if they were certified. This phenomenon accelerated with membership of the WTO (3167 certified organizations in 2006, 7333 in 2009).



However, if, for Vietnamese companies, obtaining ISO certification has been relatively easy and quick, maintaining the Quality Management System, and above all improving it, has proved to be a difficult achievement for the majority of them.

In this study about the maintenance and improvement of the QMS, we will first assess the degree of maintenance and analyze the reasons why the level of maintenance is rather low (Part 1). Then we will investigate the reasons why ISO 9001 certification has not brought significant improvement to the performance of the organization (Part 2).

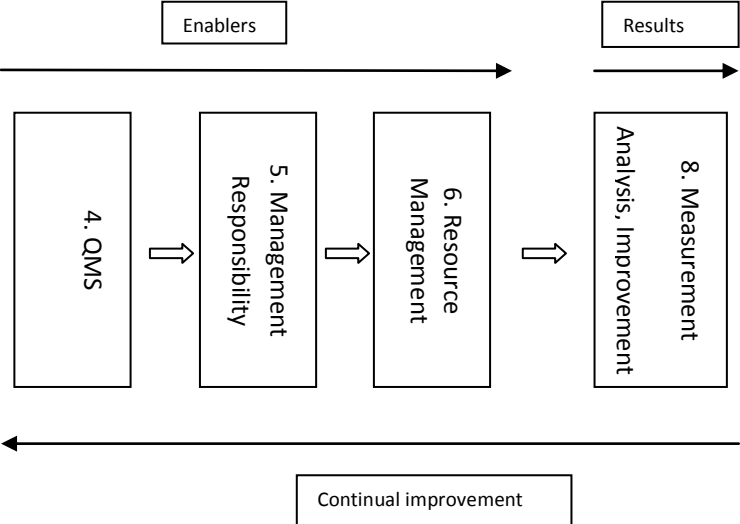
**Part 1: The maintenance of the Quality Management System**

The standard requires that the organization “establish, document, implement and **maintain** a quality management system” (ISO 9001:2008, 4.1). Maintenance of the QMS means that, once the QMS has been put in place, this is not the end of the job. This QMS needs to be constantly monitored, controlled and audited so that compliance with requirements is ensured over time.

The issue of maintenance in this study is focused on four chapters of the ISO 9001 standard: chapter 4 dealing with the QMS, chapter 5 about management responsibility, chapter 6 about resource management and chapter 8 about measurement, analysis and improvement.

23 companies have been surveyed of three different kinds in order to identify possible variations: State Joint Stock companies (11), Foreign Investment companies (7), private companies (5).

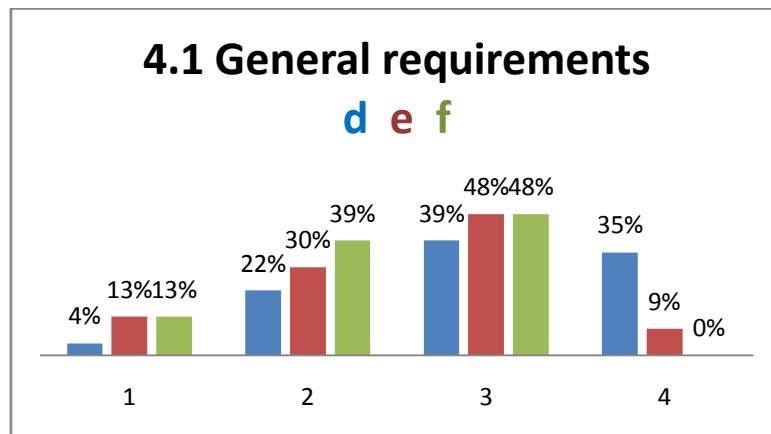
The assessment of the degree of maintenance of the QMS was assessed through interviews with the companies’ management according to the following method: a model framework to analyze the issue of maintenance was designed (see fig. below) and a four-level scale (1 to 4) was used with 1 attributed when there is no maintenance, 2 when maintenance is insufficient or defective, 3 when maintenance is satisfactory and 4 when maintenance is fully achieved.



**1.1 The QMS:**

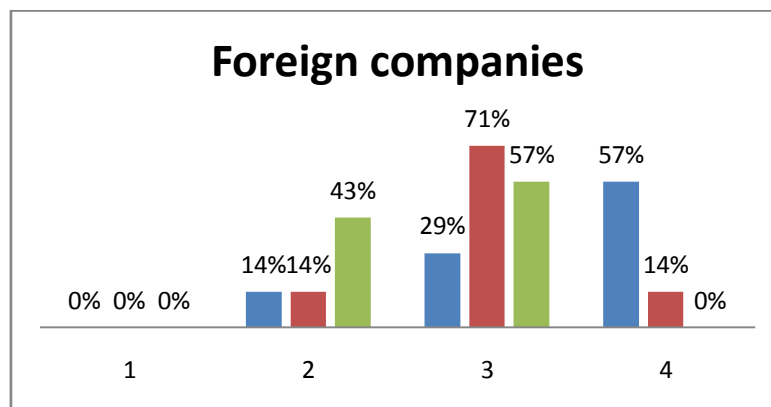
The standard sets some general requirements for the QMS (4.1). The degree of maintenance of requirements d (*ensure the availability of resources and information necessary to support the operation and monitoring of these processes*), e (*monitor, measure where applicable, and*

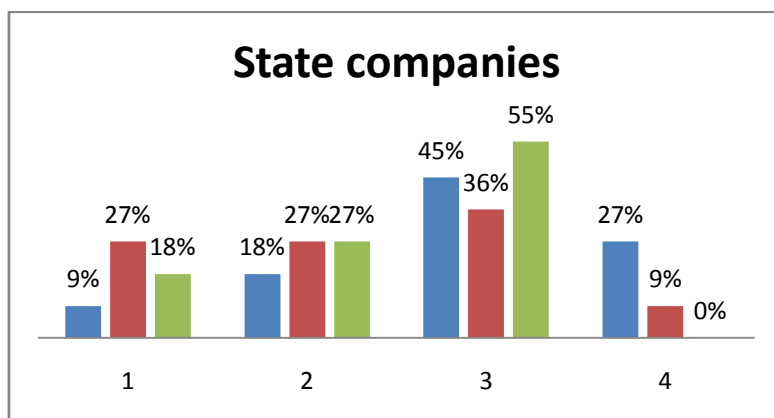
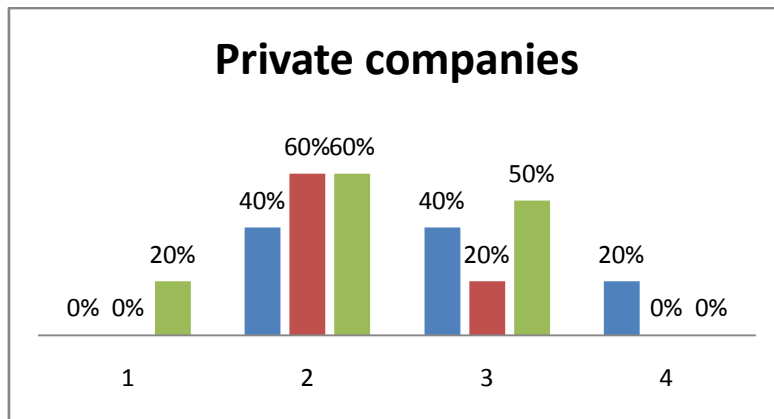
*analyze these processes*), *f* (*implement actions necessary to achieve planned results and continual improvement of these processes*) were assessed with the following results:



It appears that only a minority of companies fully maintains the system according those three requirements and that maintenance deteriorates as the system develops. 35% of companies fully provide the resources for the operation of the processes, but only 9% totally monitor, measure and analyze them, and none completely implements actions to achieve results and improve. Roughly half of the companies fulfill the requirements satisfactorily – so that they can keep their certification – but between a quarter and a half (for f) do not.

If we compare the results of the three different kinds of companies, we get the following picture:





The analysis of the degree of maintenance of the system for these items for each type of company reveals a general pattern that will be found for the different requirements studied. Globally foreign companies maintain their QMS better than private and state companies. This can be explained by the fact that foreign companies are more integrated into the international economy, have more experience of quality management and are managed by a mix of foreign and local managers. Their ISO certification is also very often part of a wider TQM style management system so that they have a better grasp of the stakes of quality. Among private and state companies, as we shall see, the degree of maintenance of the QMS can significantly vary depending on the item considered.

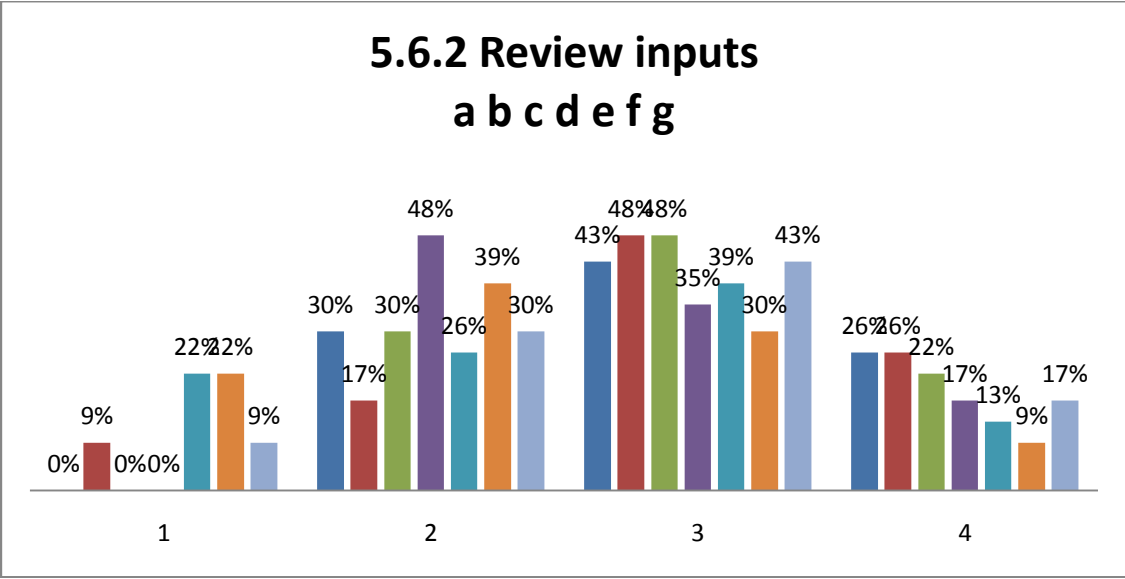
The relatively low level of maintenance with reference to these three items (4.1 d, e, f) is due the following reason: managers lack understanding – and application – of the 8 quality management principles (ISO 9004:2009, Annex B). Particularly they are not interested in principles 3 to 8, especially 4 (process approach), 5 (system approach to management) and 7 (factual approach to decision making). This will be confirmed by the analysis of management responsibility and measurement, analysis and improvement.

## 1.2 Management responsibility

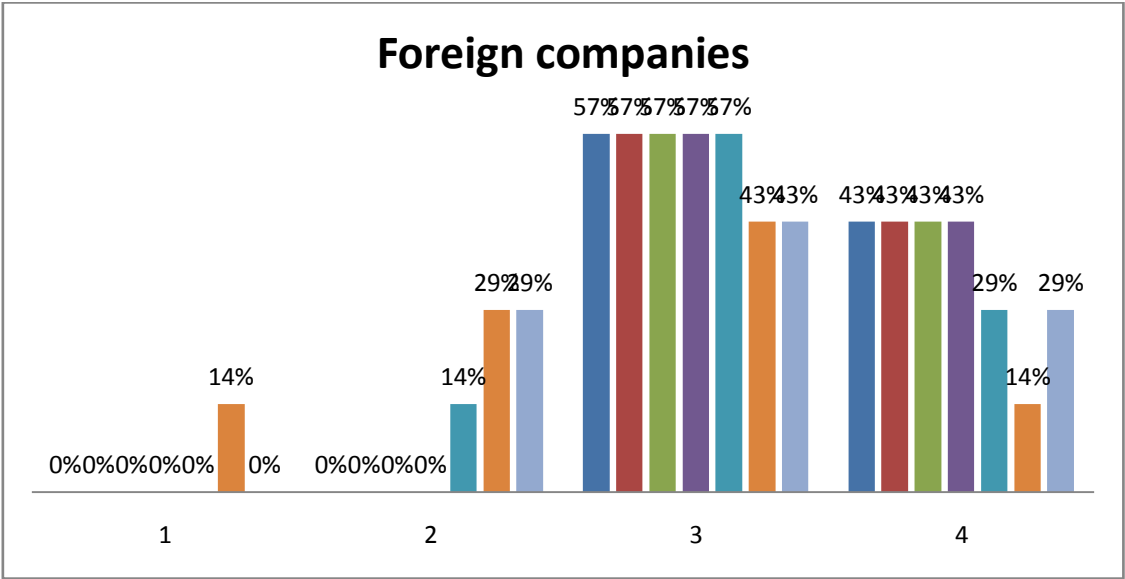
The standard states that “the adoption of a QMS should be a **strategic decision** of an organization. The design and implementation of an organization’s QMS is influenced by a) its organizational environment, change in that environment, and the risks associated with that environment, b) its varying needs, c) its particular objectives, d) the products it provides, e) the processes it employs, f) its size and organizational structure.”

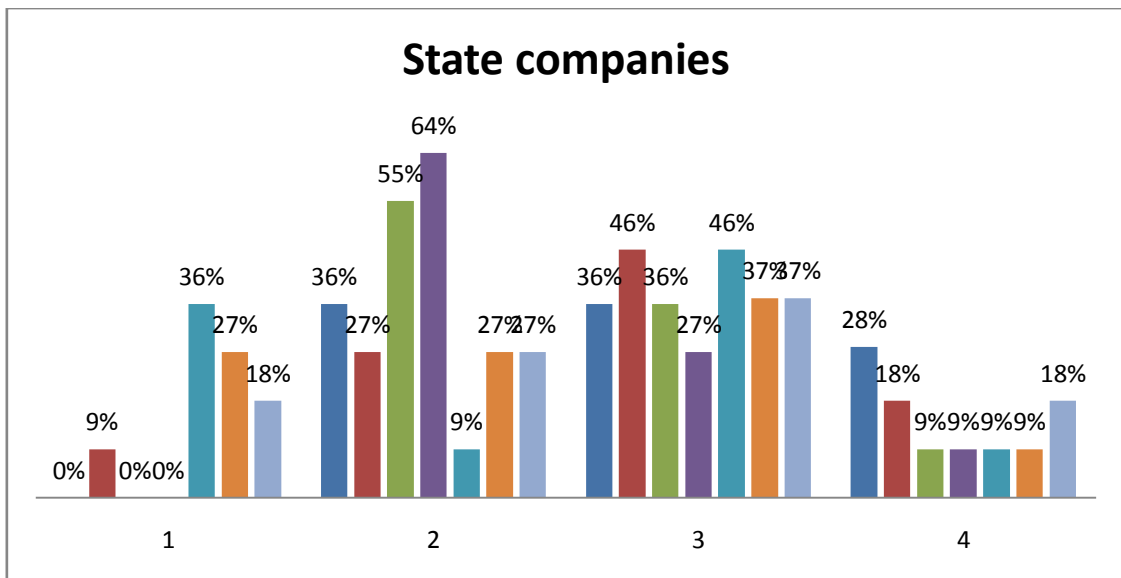
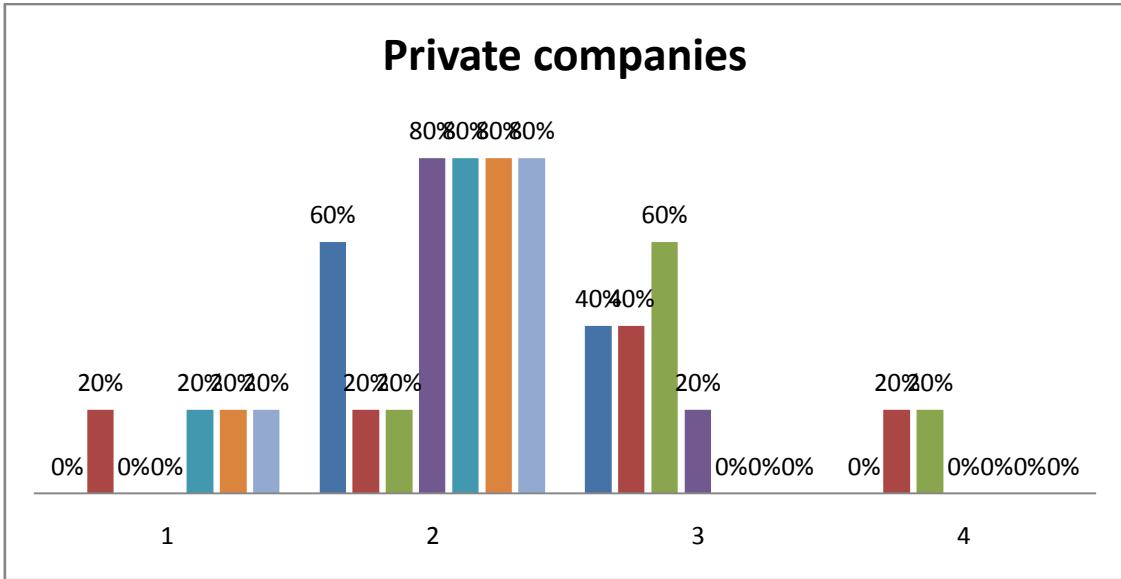
The survey of managers evidences the fact they are not aware of item a, they cannot specify the “varying needs” (b), the “particular objectives” (c), and identify the “processes it employs” (d). The reasons are to be found in the way most companies embark on the

certification process. They hire a consultant who organizes a team from functional departments, to establish the QMS, prepare the documentation required and the audit(s). The management of the companies does not get involved in the process so that they do not realize the strategic dimension and seek certification mostly because it is imposed on them. A key element of management responsibility is the requirements about management review, which is the way for management to monitor and control the QMS and make decisions and act to improve it. The assessment of the review inputs (5.6.2) items and the review outputs (5.6.3) items gave the following results:



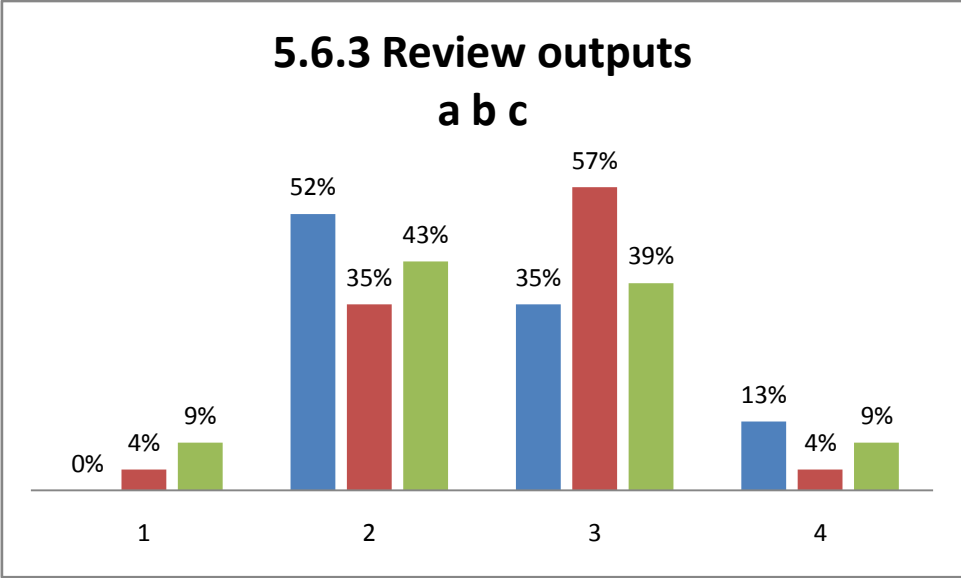
The global picture for the seven inputs is that at best a quarter of companies fully meet the requirements, and about half do not meet them. There are marked differences when examining the different categories of companies.





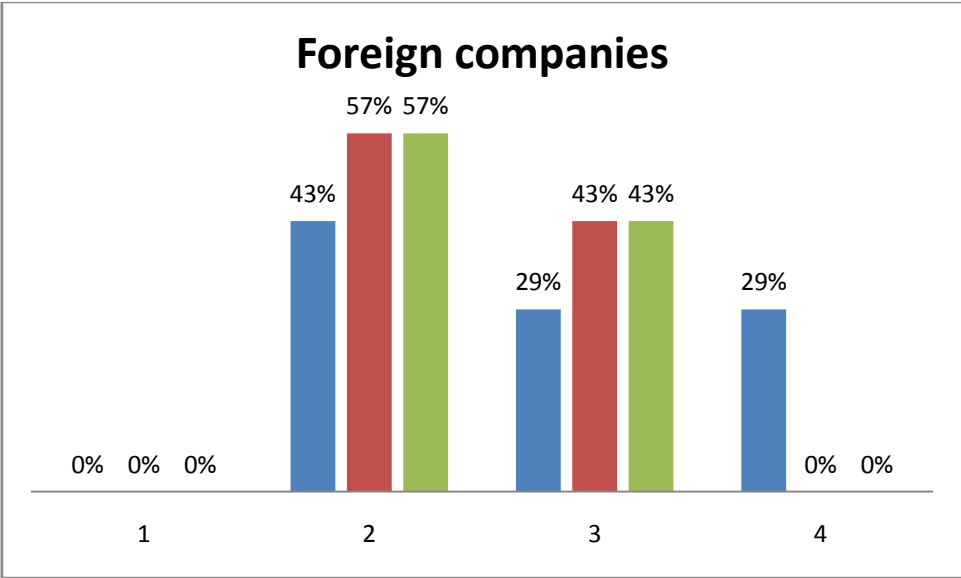
Foreign companies fare much better than private and state companies. This confirms what has already been noted; a better knowledge and practice of quality management in foreign companies. State companies do somewhat better than private companies as they are larger and benefit by more resources.

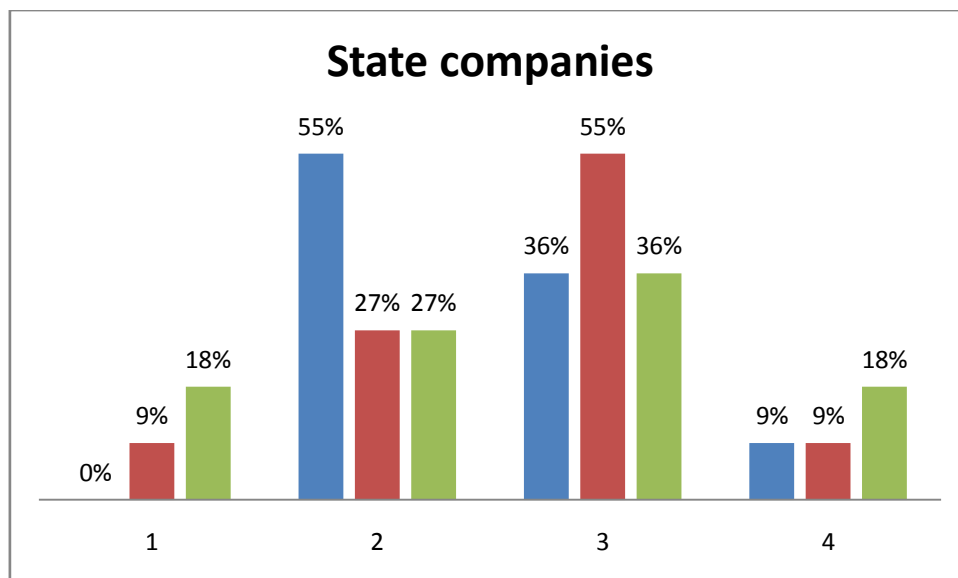
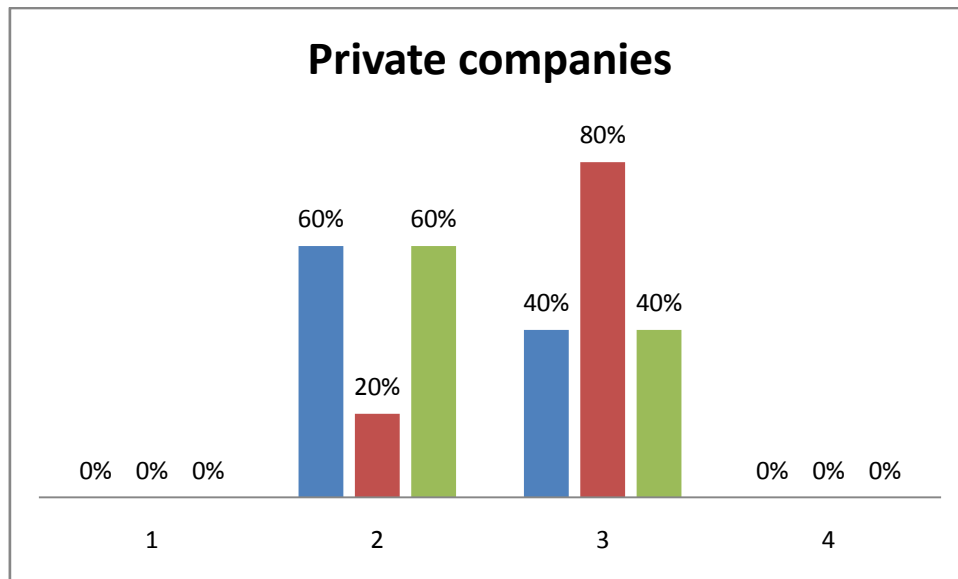
The picture for review outputs is bleaker (a: improvement of effectiveness of QMS, b: improvement of product, c: resource needs).



A very low proportion of companies produce valuable outputs. When we look at the inputs-outputs ratio, we witness a low leverage of the resources. It is as if things were started in a relatively correct manner and then deteriorate. And this can be noticed for several items (cf. measurement, analysis, improvement below).

The results for each type of company also show marked differences.

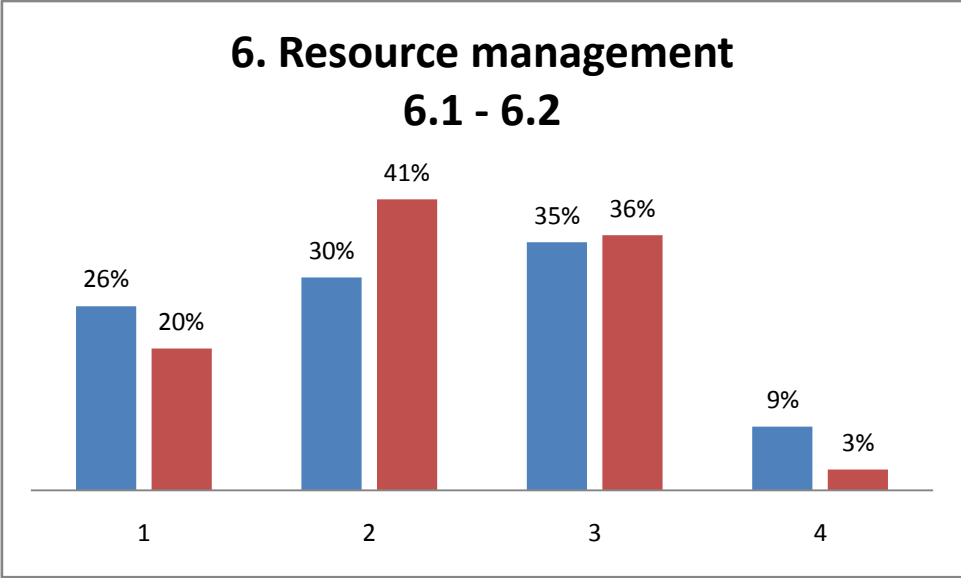




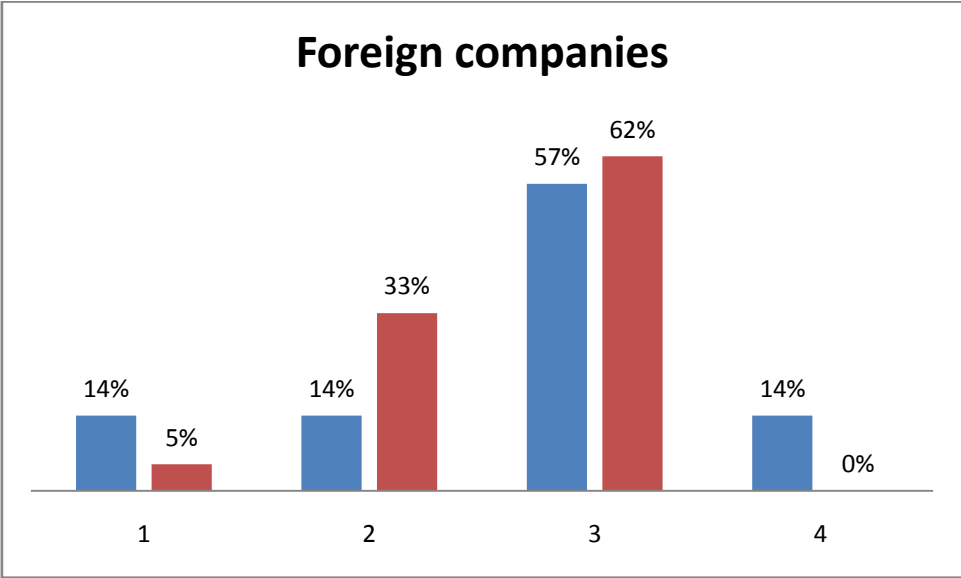
Here, even foreign companies do not have convincing results. State companies do slightly better. It is not easy to explain these findings. Foreign companies' managers argue that they are not interested in b and c because their products meet customer requirements, or they believe so, and their resources are maintained. Private companies in fact rarely organize a real meeting for management review. And state companies leave management review almost entirely to the Quality Management Representative who collects the information, writes and sends a report to the management.

### 1.3 Resource management

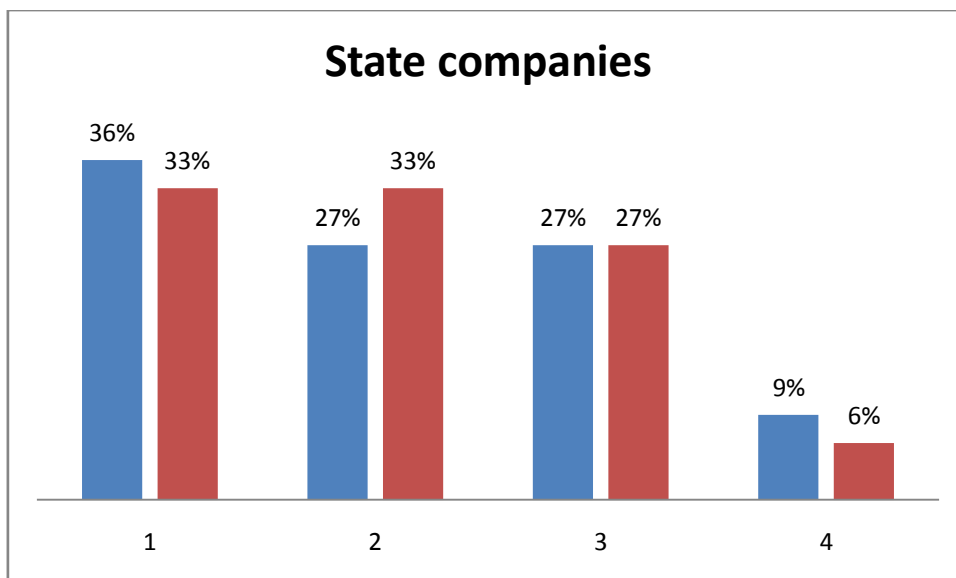
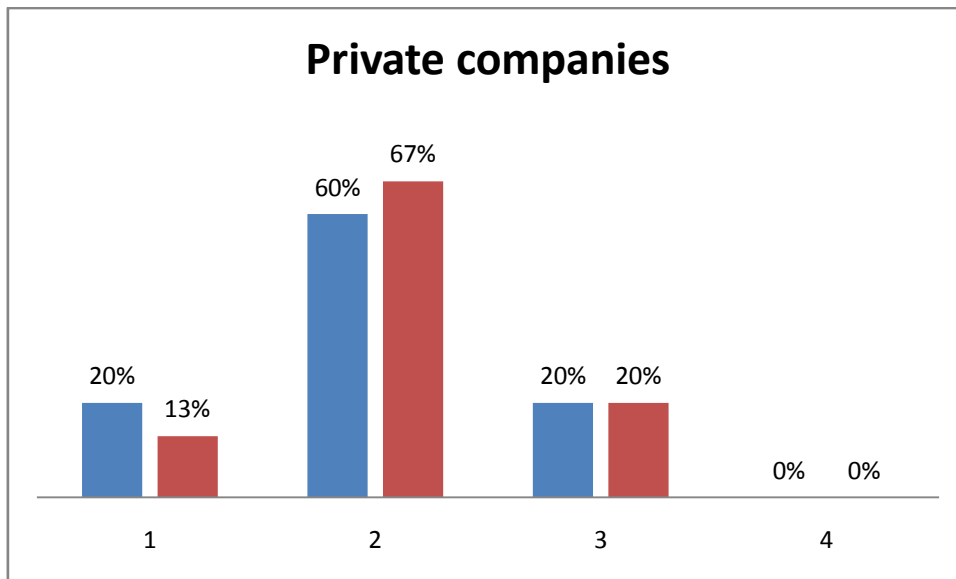
The standard requires that “the organization shall determine and provide the resources needed (...) to maintain the QMS” (6.1). Among these resources, the standard requires that “personnel performing work affecting product conformity shall be competent on the basis of appropriate education, training, skills and experience” (6.2.1). Those two items were investigated in the survey and gave the following results:



The global picture is that companies are meeting serious problems with resources. Whatever their status the situation is similar.







The poor maintenance of the quality system as regards resources is due to factors impacting any organization in the country (we would find the same results, even worse, in public administrations) related to the macro economic and social environment.

First there are inadequate recruitment procedures. Skills and competencies do not match requirements. Companies are not fully responsible for that as there are discrepancies between scholarly training, still marked by the pre-market context, and the competencies required in an open and competitive environment.

Second there is a lack of in-house training. Companies are reluctant to organize training as they fear their personnel will leave once trained to seek a better paid job. All companies face a huge problem of personnel turnover which creates a vicious circle.

Third there is a lack of trust between top management and middle management also contributing to a big turnover of middle management. There is also a lack of communication between management and operators. This is mainly due to the rigid pyramidal and hierarchical structure of the organization inherited from the pre-market state-owned enterprises. Sometimes operators do not even know who they are managed by and middle management has never seen the “boss”.

Fourth quality management representatives are not quite aware of their role in maintaining the QMS. They, most of the time, originate from operations, and can be quite good at controlling them, but they do not have a managerial vision.

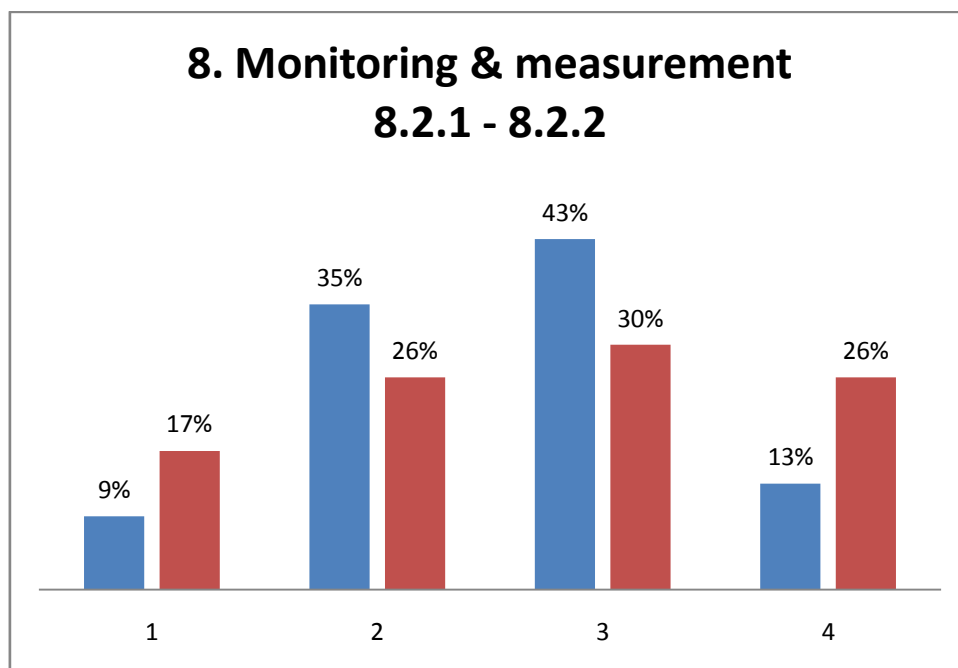
The overall picture is that the establishment of a QMS fulfilling the basic formal requirements of the standard to get certification is rather easily and quickly accomplished by organizations. But once the certification is obtained the maintenance of the QMS is deficient for two main reasons; the lack of commitment of the management and the insufficient level of competence of the human resource making the improvement erratic (Conti 2010)

The low or at least average degree of maintenance of the QMS leads to an absence of real improvement in effectiveness and efficiency.

## Part 2: The improvement of the performance

In order to evaluate and analyze the improvement effects of the organization, the survey has been focused on a number of requirements in Chapter 8 of the standard, which are the basis for continual improvement.

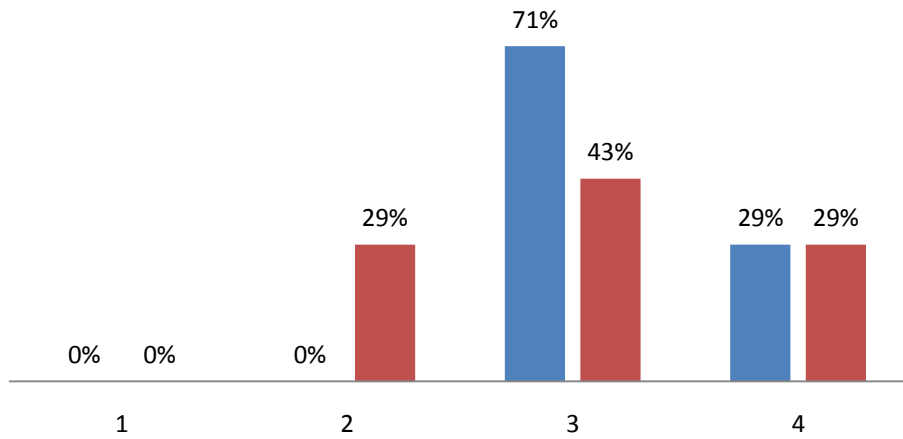
The standard requires that “the organization shall monitor information relating to customer perception (8.2.1. customer satisfaction)” and that “ the organization shall conduct internal audits (8.2.2)”. These two items of monitoring and measurement gave the following results:



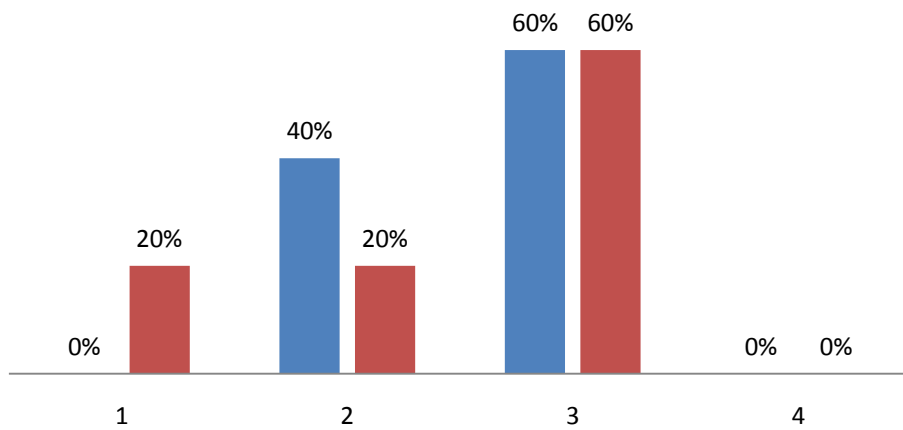
Here again, it appears that only a little more than half of the organizations surveyed conduct their monitoring and measurement in a satisfactory way.

The results for the different types of organizations are the following:

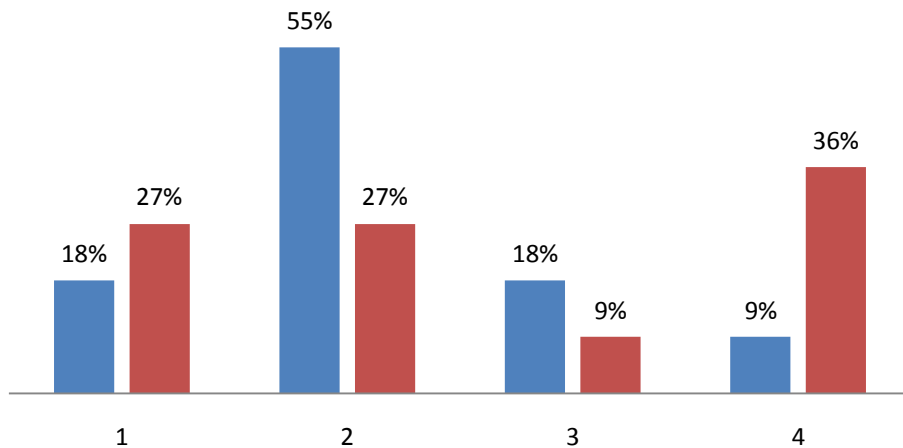
### Foreign companies



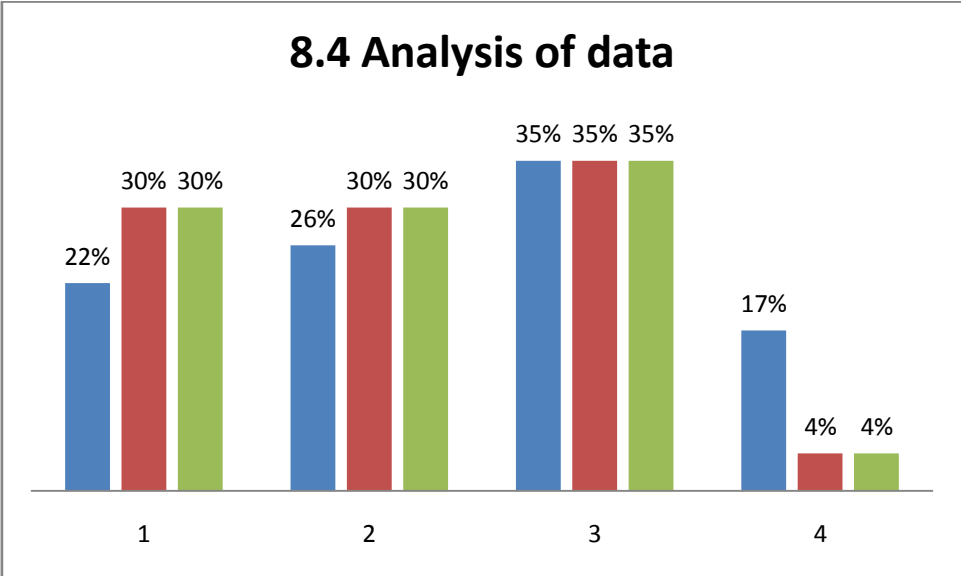
### Private companies



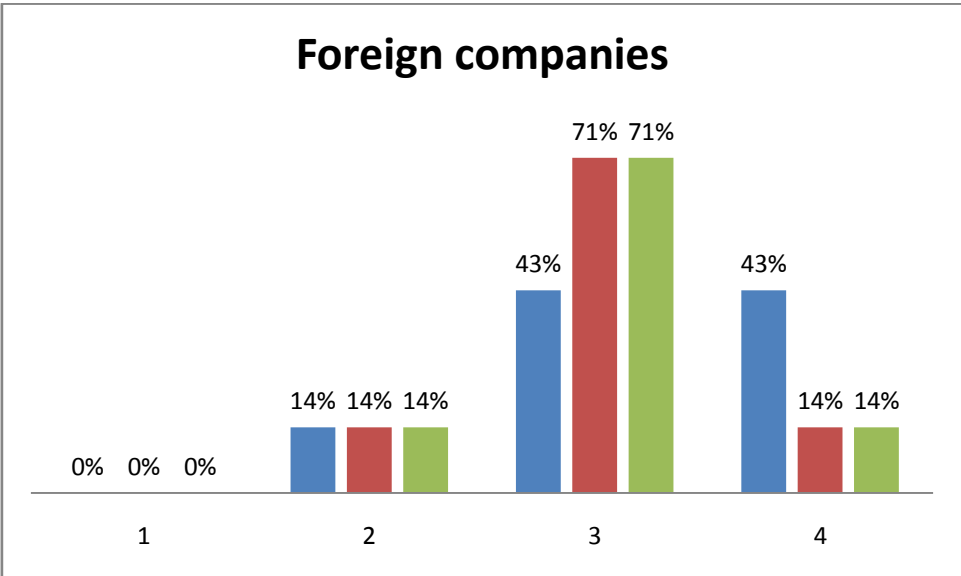
### State companies

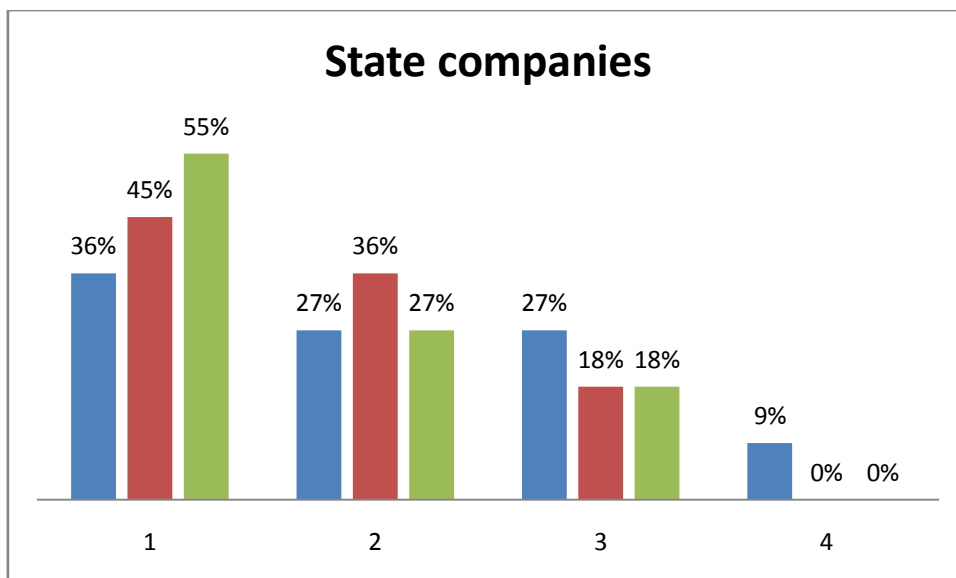
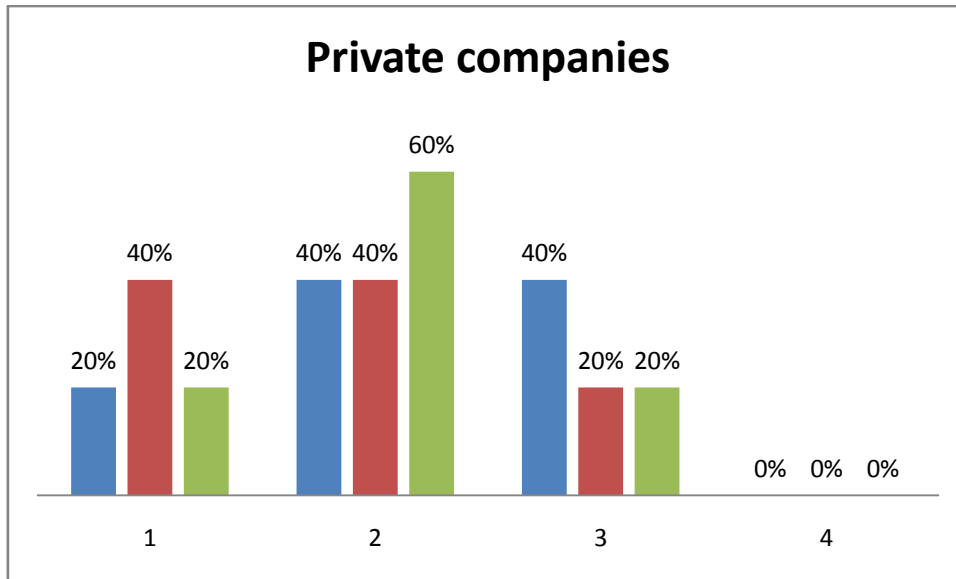


We notice marked differences between the three kinds of organizations. Foreign companies satisfactorily maintain their QMS through monitoring and measurement, whereas private ones, and even more state organizations, do not show great interest for monitoring and measurement. According to the “management by facts” principle, not only should organizations monitor and measure but also analyze the data that they collect in order to make decisions for improvement. The picture of “analysis of data” (8.4) is in-keeping with that of monitoring and measurement.



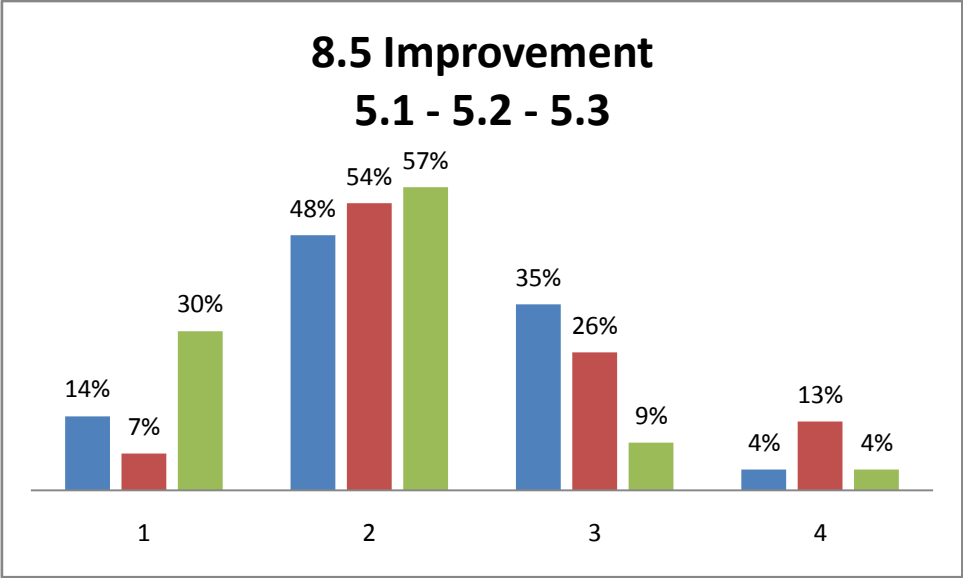
It is, globally, even gloomier. The data collected by the companies are not used for a good number of them. Only 39% of companies (green bars) analyze “data generated as a result of monitoring and measurement”. And the contrast between foreign companies and private and state ones is even more striking.



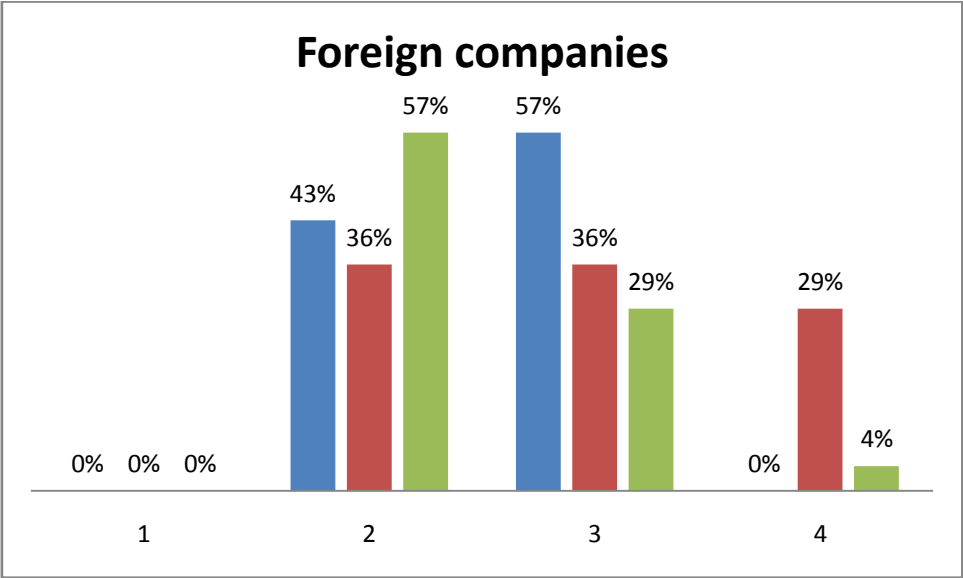


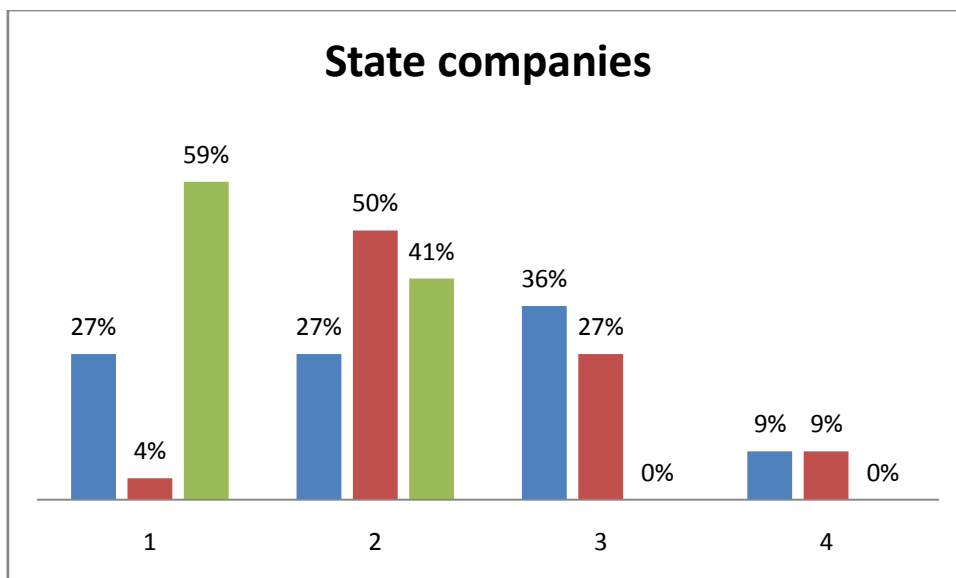
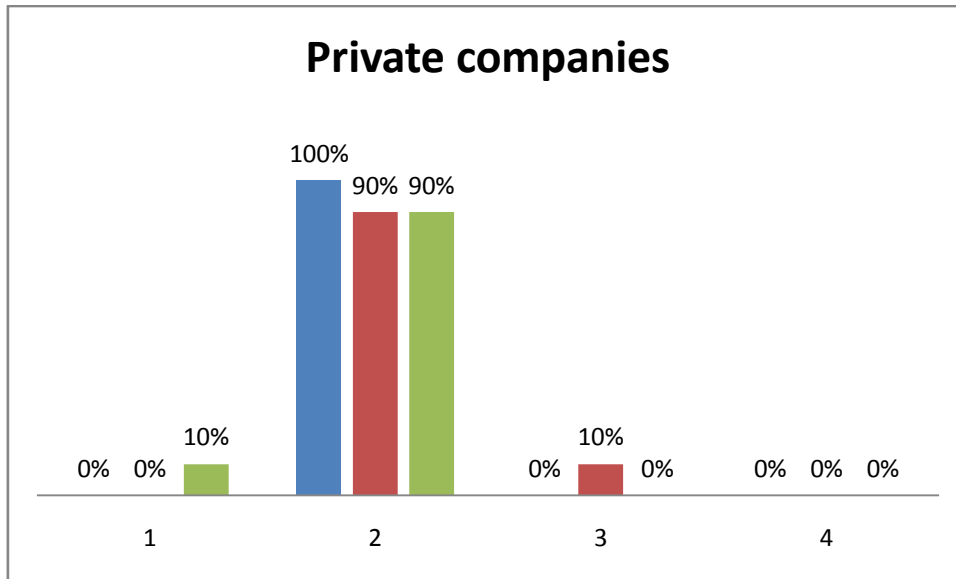
The management is primarily interested in economic results such as the turnover and the margin, but not in how processes perform. The data collected concern the outcomes of the processes. Data on the processes are not or rarely collected. There are no key performance indicators to measure processes. There is no analysis of non-conformities, hence the companies only correct non-conformities but do not implement corrective actions, not to speak of preventive actions, as can be seen below. There is also no systematic collection and analysis of customers' feedback information. This shows that these companies have not (yet) integrated a quality culture into their management and still live on their old habits.

Finally the standard requires that “the organization shall continually improve the effectiveness of the Quality Management System (8.5.1), notably through corrective and preventive actions (8.5.2 and 8.5.3)



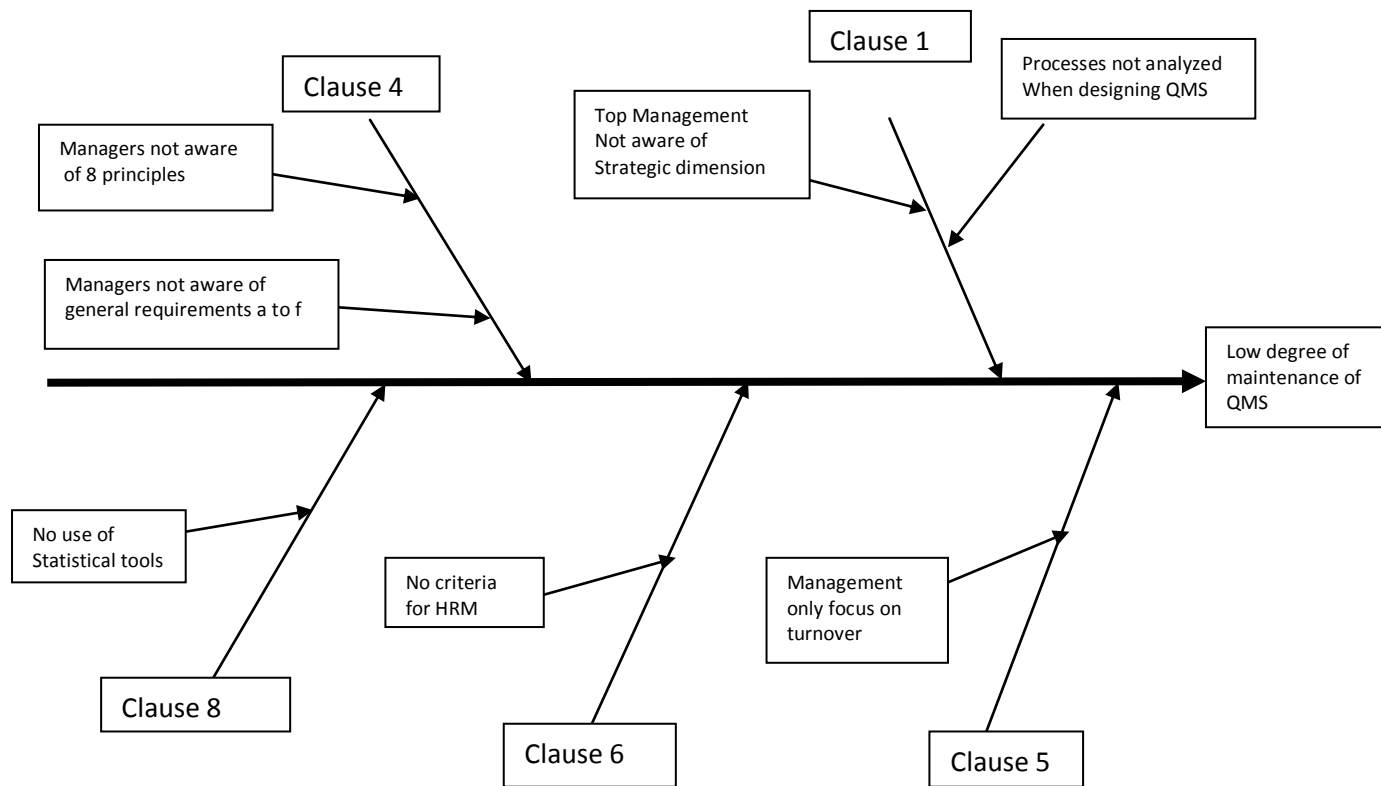
Only 39% of the companies surveyed show some sort of improvement. The picture is bleak for the three types of companies surveyed.





Like for all the other aspects foreign companies fare better than the others as they are more internationally integrated, but their achievement is far from being remarkable. The results of private companies are appalling. Corrective actions are hardly existent and preventive actions are non-existent.

The evidencing of the causes of a low degree of maintenance and lack of improvement can be summarized in the following fishbone diagram. The majority of root causes for the poor performance of the Quality Management System is to be found in the management.



The management's awareness of the potential benefits of a QMS should be raised. When asked, the only benefit they mention is increased orders by customers. There is no awareness of continual improvement. Management responsibility should be enhanced. After certification is obtained, the management is no longer interested in the QMS and leaves it to the quality representative, who is not often up to the job, or to a consultant. And as the personnel are not sufficiently trained in quality tools and there is a lack of monitoring and control, no real improvement can take place.

### **Conclusion:**

The efforts deployed by the organizations surveyed to obtain certification and get positive results are short-lived. They are unable to maintain their QMS in a satisfactory way mainly for lack of a strategic vision and commitment from the management leading to no or very limited improvement of the effectiveness and efficiency of the system. The findings are not unique and have also been observed in other environments (Zeng et al., 2007, Fotopoulos et al., 2008) stressing the fact that it is not getting ISO certification which is difficult but implementing a system for continual improvement, that is with a total quality outlook.

The number of companies surveyed being relatively limited, it is difficult to generalize, but we are most probably not far from the truth when we see that roughly 50% of companies, with



some marked differences between different types of organizations due to different constraints and histories, manage to maintain their quality management system properly.

## References

- Anderson, S.W, Daly, J.D., Johnson, M.F. (1999), "Why firms seek ISO 9000 certification: regulatory compliance or competitive advantage?", *Production and Operations Management*.
- Buttle, F. (1997), "ISO 9000: marketing motivations and benefits", *International Journal of Quality & Reliable Management*.
- Casadesus, M. and Karapetrovic, S. (2005), "The erosion of ISO 9000 benefits: a temporal study", *International Journal of Quality & Reliability Management*.
- Casadesus, M. and Karapetrovic, S. (2005), "Has ISO 9000 lost some of its lustre? A longitudinal impact study", *International Journal of Operations & Production Management*.
- Conti T. (2010), "There is no panacea for all diseases: true for humans, true for organizations", *Toulon-Verona-ICQSS Conference, Coimbra, Portugal*
- Fotopoulos, C., Psomas, E., Vouzas, F. (2008), *ISO 9001:2000 implementation in the Greek food sector*, *TQM Journal*.
- Gotzamani, K.D. (2005), "The implications of the new ISO 9000:2000 standards for certified organizations. A review of anticipated benefits and implementation pitfalls", *International Journal of Productivity and Performance Management*.
- Gotzamani, K.D., Tsiotras, G. (2002), "The true motives behind ISO 9000 certification, their effect on the overall certification benefits and long-term contribution towards TQM", *International Journal of Quality & Reliability Management*.
- Gotzamani, K.D., Theodorakioglou, Y.D. and Tsiotras, G.D. (2006), "A longitudinal study of the ISO 9000 (1994) series' contribution towards TQM in Greek industry", *The TQM Magazine*.
- ISO (2010), *The ISO survey of certifications ISO 9001:2008 standard*
- Leung, H.K.N, Chan, K.C.C, Lee, T.Y. (1999), "Costs and benefits of ISO 9000 series: a practical study", *International Journal of Quality and Reliability Management*.
- Zeng S.X., Tian P., Tam C.M. (2007), "Overcoming barriers to sustainable implementation of the ISO 9001 system", *Managerial Auditing Journal*.
- Vouzas, F.K., Gotzamani, K.D. (2005), "Best practices of selected Greek organizations on their road to business excellence: the contribution of the new ISO 9000:2000 series of standards", *The TQM Magazine*.

# CO-INNOVATION IN CREATIVE-INTENSIVE BUSINESS SERVICES: THE ROLE OF CLIENTS IN ADVERTISING AGENCIES' INNOVATION PROCESSES

**Barbara Masiello**, *University of Naples 2, barbara.masiello@unina2.it*  
**Alessandra Marasco**, *National Research Council-IRAT, a.marasco@irat.cnr.it*  
**Francesco Izzo**, *University of Naples 2, francesco.izzo@unina2.it*

## **Abstract**

*The provider-client relationship is at once the main locus and the fundamental source of innovation through the interactive exchange of information and knowledge occurring during service production. However, one relevant research gap concerns the influence of relationships with clients on providers' own innovation processes. This paper aims at contributing to fill this gap, by focusing in particular on Creative Intensive Business Service (CIBS), and, more precisely, on advertising agencies. Drawing on an extensive literature review that combines three main areas of research – (i) service management and innovation literature, (ii) relationship marketing, and, (iii) user involvement in new service development - we define a multidimensional framework and identify key constructs for the analysis of provider-client relationships that foster agency's innovation. Thus, we contribute in advancing knowledge on client's contribution in service innovation, with particular reference to CIBS.*

## **1. Introduction**

The service management literature has widely documented the prominent role of customers as service co-producers and its implications for innovation processes of firms in this sector (Sundbo, 1997; Sundbo and Gallouj, 1998). During the last years, an increasing attention has been devoted to the involvement of the customer as an active collaborator right from the beginning of the innovation process (Kristensson *et al.*, 2008) and a number of studies have addressed strategies for proactive exploitation of customers' knowledge inputs and customer co-innovation processes. However, most studies in this area are founded on the new service development perspective, focusing on user integration in planned, formalised projects, which can be assimilated to industrial innovation processes. It can be thus argued that the heterogeneity of service innovation processes and innovation types (other than new service concepts) is to some extent overlooked and further research is needed to enhance the understanding of antecedents, practices and outcomes of user involvement in different service innovation settings.

In this regard, creative-intensive business services (CIBS) – including advertising, architecture, design – provide a rich, though unexplored, research field to investigate the nature and dynamics of user involvement given the important role of clients as a source of knowledge. As for other knowledge-intensive business services, CIBS provision is the result of an intense co-production process that requires in-depth interactions between provider and client and both parties are involved in cumulative learning processes and knowledge exchanges (Gadrey and Gallouj, 1998; Muller and Zenker, 2001; Strambach, 2008). It is stressed these firms face unique challenges in managing the co-producer role of clients through appropriate collaborative relationships as their clients possess much of the codified and tacit knowledge that is needed to successfully deliver the service solution (Bettencourt *et al.*, 2002). Recent evidence (Amara *et al.*, 2009) further confirms the benefits of strong ties with clients to facilitate knowledge exchange and innovation in knowledge-intensive business services providers. Notwithstanding the increasing attention devoted to these services and their importance within innovation systems (UNCTAD, 2008; Higgs *et al.*, 2008), there has

been little detailed examination of the impact of provider-client collaboration on innovation processes of CIBS providers. Moreover, existing studies mainly focus on the contribution of these firms to the innovation capability of their clients. For instance, Bakhshi and McVittie (2009) found that forward and backward linkages to the creative sector are positively related to innovation: both suppliers and customers of creative service providers are more likely to engage in design activities, to introduce new products and to expand their product range as a result of their innovation activities.

The purpose of this paper is to provide a conceptual contribution for advancing knowledge on the role and practices of cooperation with clients in CIBS innovation, with particular reference to advertising agencies. The interest for this specific industry is motivated by the highly customised, innovative and interactive nature of advertising services when compared to other CIBS. Indeed, the production of these services is based on the combination of symbolic, tacit and highly personalised knowledge that cannot be easily codified into manuals, software codes, databases (Ewing and West, 2000). This is reflected in their intrinsically innovative nature: not only standardisation and reproducibility are hardly to achieve but would even be inappropriate since they are likely to decrease the value of services for clients. For the very nature of the knowledge embodied in the creative process, an in-depth, “emphatic” interaction with clients is required in order to collect client-specific inputs (e.g. relating to its mission, values, strategies, brand identity) and translate them into creative ideas. In other words, advertising services are the result of intense, mutual understanding and unique relationships with clients, which are thus naturally strongly involved as service co-creators. However, little research exists on the role of client input and agency–client relationships in facilitating agency’s innovation processes.

In order to fill this gap, this paper develops a conceptual framework for the analysis of clients’ role and contribution in advertising firms’ innovation processes. This is developed by integrating concepts and insights from different research streams, notably the literature on user involvement in service innovation, studies on service management and innovation and research on relationship marketing, with particular reference to advertising services. In fact, it is believed that the combination of these separate research bodies can yield first insights to explore the complex nature of co-innovation processes in this industry.

The paper is structured as follows. In the next section the literature on customer involvement in service innovation is reviewed to gain insights into key elements of user involvement, including lead user issues. Section 3 focuses on innovation in CIBS, with particular reference to advertising services, and addresses innovation forms and processes in this context. Also, the specific features and role of client-agency relationships is examined. In Section 4 a critical reassess of the existing literature on advertising is provided, in order to highlight gaps in the research on advertising-client co-innovation processes. Section 5 proposes a framework for the analysis of client role in advertising agency’s innovation, based on the integration of concepts and insights from the examined research streams. The framework identifies the key dimensions of client involvement to be investigated for understanding clients’ role and contribution in advertising firms’ innovation processes. Finally, in the last section some conclusions and directions for future research are provided.

## **2. Customer involvement in service innovation: an overview**

Recent years have witnessed an increasing academic and practitioner interest in the role of customers in service innovation. User involvement in the service innovation process is deemed even more important than product innovation given the role of the customer in service co-production (Sundbo, 1997; Menor *et al.*, 2002). Several evidences support that

customer participation in the innovation process is a key factor for successful new service development (de Brentani and Cooper, 1992; de Brentani and Ragot, 1996; Carbonell *et al.*, 2009). An increasing number of studies from different research streams - including new service development, relationship marketing, open innovation - recommends that service companies involve their customers as co-innovators (e.g. Alam, 2002; Edvardsson *et al.*, 2006; Moller *et al.*, 2008; Chesbrough, 2011) in order to develop superior and differentiated new services, reduce development cycle time, costs and uncertainty, improve producer-user relationships, obtain higher value and profits. This growing research body tends to focus on key dimensions of user involvement, including the types of customers to be involved, the stages of the service development process in which users should be involved, and the modes of customer interaction (Alam, 2006; Sandén *et al.*, 2006).

### *2.1 Whom to involve: customer characteristics*

Empirical studies have mostly focused on the applicability of the lead user concept that identifies a subset of users who “face needs that will be general in a marketplace months or years before the bulk of that marketplace encounters them and are positioned to benefit significantly by obtaining a solution to those needs” (von Hippel, 1986, p.796). Evidences on this issue are still fragmented and partly contrasting. In a study on the sources of major banking innovations, von Hippel and Oliveira (2009) found that most of the novel retail and corporate services introduced by US commercial banks were preceded by self-provision of functionally similar or identical services by users. Matthing *et al.* (2006) support the potential effectiveness of involving leading edge users in service innovation projects in the context of new technology-based services (e.g. mobile telecommunication services, Internet banking, geographic positioning systems). More in detail, they found that the technology readiness construct<sup>1</sup> is appropriate for identifying lead users and is positively correlated with users’ ability and motivation to generate new, creative service ideas. With regard to the same sector, Kristensson *et al.* (2008) confirm that user involvement in new product development is more likely to be successful if users are intrinsically motivated by an apparent personal benefit from their ideas. They further suggest that successful new service development requires the involvement of a heterogeneous group of users to ensure that a diversity of ideas for future services is generated. In a study on the development of new financial services, Alam (2006) recommends to involve lead users but to conduct further probes into lead user input by discussing the ideas generated by lead users with a large sample of ordinary customers. Moreover, he found that in most cases customers are selected on the basis of a close relationship to the company because confidentiality and trust are considered major issues for successful interactions. Other studies (Kristensson *et al.*, 2002, 2004; Magnusson *et al.*, 2010) support the involvement of ordinary users as valuable sources of inputs for the innovation of mobile telecommunication services; it is found that the lack of technical knowledge is not a drawback but rather an asset as it induces users to “think outside the box” and contributes to their capability to produce more original and creative ideas than professional service developers. Finally, the study by Sandén *et al.* (2006) shows interesting differences between providers of business and consumer services: the first are more likely to involve customers with a special expertise, whereas firms in the B2C market collaborate largely with financially attractive customers.

---

<sup>1</sup> This concept was introduced by Parasuraman (2000) and identifies an overall state of mind resulting from a gestalt of mental enablers and inhibitors that collectively determine one’s overall predisposition towards new technologies.

### *2.2 When to involve role of customers in different stages of the innovation process*

Other studies focus on the stages of the service development process in which users should be involved. This body of research shows that customer can be usefully involved throughout the process (Alam and Perry, 2002; Abramovici and Bancel-Charensol, 2004), but their role seems to be more important in the early phases of development. For instance, Alam (2002; 2006) stresses that the stages of idea generation and screening are more critical, more complex and more time consuming than the others given the difficulties in forecasting customer requirements and assessing initial service outlines in the financial sector. Due to this complexity and fuzziness, financial providers are urged to interact more intensely with customers in the front-end stages in order to acquire useful details of problems and areas of dissatisfaction with existing services, to identify needs and market gaps, to specify desired features, benefits and preference in a new service, and to examine the saleability of new service concepts. In this respect, the author further underlines that the intensity of user involvement can vary widely across various stages of the development process and be described on a continuum, ranging from: a) passive acquisition of user inputs to b) collection of information and feedback on specific issues, c) extensive consultation with users and d) full representation of customers within the new service development team (i.e., participative decision making). Also the study by Kuusisto and Riepula (2008) on business services (cleaning and security, financial and ICT services) shows the important role of customers in the initial stages of the innovation process. In their case analysis, clients are found to act as catalysts of innovation as their suggestions or requests often trigger the initiation of a formal new service development project. Moreover, it is found that service users can play a key role for the internal marketing of the new service idea within the provider organisation: clients' commitment to adopt the potential new service is often crucial to secure resources for its further development and to overcome resistance from employees and partners who are responsible for the new service implementation. These findings are consistent with the study by Toivonen and Tuominen (2009) that highlights the significant role of clients as primary driver of innovation in knowledge-intensive business services (e.g. consultancy, architecture, marketing communications) and in particular of *ad hoc* innovation processes (Gadrey and Gallouj, 1998). More in detail, their results confirm previous evidence on the heterogeneity of innovation processes in services (Sundbo, 1997; Sundbo and Gallouj, 1998; den Hertog, 2000), ranging from the traditional R&D model to an emergent, practice-driven model where innovations are not the result of a deliberate activity but emerge during the service provision on the basis of specific clients' needs and are recognised as such only *a posteriori*. In the latter, the clients' role is not limited to providing information, feedback and/or the opportunity for "testing" the new service, but is instrumental in initiating the innovation process itself and in co-producing the new service solution.

### *2.3 How to involve: modes of customer involvement*

Other contributions address modes of customer involvement with the aim to investigate their effectiveness in acquiring and co-creating user knowledge. In his seminal contribution Alam (2002) identifies multiple modes - including face-to-face interviews, user visits and meetings, brainstorming, user's observation and feedback, focus groups discussions - that can be usefully combined at various stages of the development process. Kristensson (2006) conceptualizes the different modes into three broad categories and stresses the differences among them in terms of resulting knowledge from customers. "Say" methods - based on verbal communication from customers (e.g. interviews, focus groups, surveys) - are suitable to collect information about customer perceptions and previous experiences with existing

products. “See” modes include observation and ethnography and are appropriate to understand customers use of products, particularly during the prototype phase of the development process. Both these modes are not suitable for detecting latent needs or to find new ideas about unexploited opportunities within the early development stage as say methods direct the cognitive focus backwards in time while customer observation is centred on present, ongoing behaviours. Consequently, when the aim is to get creative inputs for future products “make” methods are more effective as they enable customers to create solutions on their own in a specific situation. The author thus stresses that the success of collaboration with users is influenced by the appropriateness of the involvement modes for the specific information needs within the innovation process. Other studies in this area (Gustafsson *et al.*, 1999; Magnusson *et al.*, 2003; Matthing *et al.*, 2004; Lundkvist and Yakhlef, 2004) converge on the advantage of using non-traditional market research methods, including observation of customers in real situations, activation of users into problem solving in their own day-to-day environments, integration of users in R&D teams. Magnusson *et al.* (2003) argue that it is not enough to merely ask the customers if they have any ideas since the generation of creative ideas requires the involvement of users in actively producing their own services. Similarly, Lundkvist and Yakhlef (2004) observe that customer involvement should not be limited to a mere transfer of information from customers to firms, since tacit and sticky customer information and knowledge require socially rich interactions in order to be shared. This brief review, which is synthesised in table 1, shows that, notwithstanding the increasing attention devoted to user involvement in service innovation, most studies appear to be focused on a limited range of services, namely production-intensive sectors (e.g. banking and other financial services, telecommunications) where innovation is primarily developed through formalised projects by dedicated R&D units (Sundbo and Gallouj, 1998; Evangelista, 2000).

Table 1: User involvement in service innovation: key findings from the literature

Dimensions	Findings from the literature	Service sectors	Authors
Whom to involve	Lead users	Technology-based services (mobile telecom., Internet banking); financial services; banking	Matthing et al. (2006); Alam (2006); von Hippel & Oliveira (2009)
	Ordinary users	Mobile telecom.	Kristensson et al. (2002, 2004); Magnusson et al. (2010)
	Close users	Financial services	Alam (2006)
	Heterogeneous users	Mobile telecom.	Kristensson et al. (2008)
	Financially attractive users	Various B2B/B2C	Sanden et al. (2006)
When to involve	Initial & final stages (of <i>formalized</i> process) for need identification, validation	Mass services (public transportation, hotel)	Abramovici & Bancel-Charensol (2004)
	All the stages (of <i>formalized</i> process) for idea generation & screening, design, testing & pilot run	Financial services	Alam & Perry (2002)
	Front-end stages (of <i>formalized</i> process) for idea generation & screening	Financial services	Alam (2002; 2006)
	Early stages (of <i>formalized</i> process) as process driver & promoter	Business services (cleaning & security, financial, ICT).	Kuusisto & Riepula (2008)
	Throughout <i>ad hoc</i> innovation process as driver and co-	KIBS (consultancy, legal services, architecture,	Gadrey and Gallouj (1998); Toivonen and Tuominen (2009)

	innovator	marketing)	
How to involve	Interviews, visits & meetings, brainstorming, observation & feedback, focus groups	Financial services	Alam (2002)
	Say methods; See modes; Make methods	Mobile telecom.	Kristensson (2006)
	Observation of users in their real environment	Airline industry	Gustafsson et al. (1999)
	Users problem solving in real life environment	Mobile telecom.	Magnusson et al. (2003); Matthing et al. (2004)
	Socially rich interactions	Public services	Lundkvist and Yakhlef (2004)

While this is consistent with the early, exploratory stage of an emerging research body, further development of the field requires additional efforts to examine customer involvement issues within other relevant service industries, such as CIBS, in order to advance the current understanding of service co-innovation.

### 3. The innovation processes in the advertising industry and the role of client-agency relationship

Research studies about the innovation processes in the advertising industry have been few, and those one addressing the issue of the client's contributions even fewer. Indeed, as recently pointed out, only a small amount of researchers have applied the insight of innovation studies to the creative industries in general, and one motivation behind could be the predominance of aesthetic issues in creative industries' product (Miles and Green, 2008; de Waal Malefyt and Morais, 2010).

A notable exception is Green *et al.* (2007). The authors focus on the types of innovation pursued in creative industries and, drawing on a model proposed by den Hertog (2000)<sup>2</sup> for conceptualising service innovation, they propose the "Diamond of innovation", whose dimensions are: Cultural Product, Cultural Concept, User Interface, Delivery, Process of Production and Technology. According to authors, in creative activities the "everyday problem solving" plays a crucial role, because it leads to a series of small and emerging innovations shaping the final creative product. For this reason, they focus on the process, generally ignored by innovation survey in creative industries. Moreover, the authors make a difference between the Cultural Product and the Cultural Concept: the former represents the physical vehicle that carries the cultural meaning, while the latter corresponds to the information content of the product. Green *et al.* argue that four dimensions of their Diamond model – namely, Cultural Product, Cultural Concept, User Interface and Delivery – are particularly important for creative industries, as able to capture where "hidden innovation" (that is innovation not recorded using traditional indicators) is likely to emerge.

Another remarkable exception is Miles and Green's study (2008), which explores hidden innovation in creative industries and, among others, focuses attention on the advertising industry. Their results show that creative firms are innovative and more prone to undertake *wider* innovation than firms in general. In particular, innovation in creative industries goes far beyond the technological aspects, embodying also changing in marketing concepts and strategies, new organisational structures and advanced management techniques. Miles and

<sup>2</sup> The author underlines that service innovation is rarely limited to a change in the characteristics of the service product itself; more often, innovation represents a broader concept, which coincides with new pattern of product, distribution, client interaction, quality control, and so on. Thus, the author distinguishes four dimensions along which service innovation can be classified, that are service concept, delivery, user interface, and technologies.

Green develop a conceptual framework, which categorizes innovations in terms of the various sites of the firm's business processes where they are located: Creative firms; Production and Pre-production; Product; Communications; and, User experience. This study is therefore particularly important, because it represents one of the few attempts to analyse innovation in creative industries considering the client experience and the co-production activities. The authors, in fact, examine the new trends that are re-shaping the creative firms' innovation processes, underlining that one of the most important is represented by the active and direct involvement of the clients. As authors state (p.56): "*Consumer are more active; they may be 'prosumer', creating their own content; or more often actively co-producing content and creative experiences together with suppliers*". More specifically, their analysis of the UK advertising industry highlights that, on one side, agencies promote themselves as "innovation partners" for their clients and that, on the other side, interaction with clients is becoming for agencies the main source of innovation. Therefore, it is not surprising that Miles and Green's report registers a boost in the intensity of agency-clients relations, with increasingly close interactions being sought. In other terms, agencies are working to secure long-term and deeper relationships with their clients, since such relationships are increasingly seen as highly valuable links to be extended: "*longer-term relationships are often forged and a platform for co-innovation work can be established*" (p. 43).

Miles and Green's study has then underlined that in advertising industry (at least, in the United Kingdom) the advertiser-client relations and the co-production dynamics are becoming more and more relevant for the innovation processes. However, there is a lack in the literature concerning the role of client in the co-innovative processes in the advertising industry. Indeed, "*innovation and collaboration in advertising have rarely been treated together*" (de Waal Malefyt and Morais, 2010, p. 336) and, notwithstanding literature has devoted considerable attention to the advertising agency-client relationship, especially during the 1980s and 1990s (Michell, 1986/1987; Wackman *et al.*, 1986/1987; Michell *et al.*, 1992; Beard, 1996; Waller, 2004; Zolkiewski *et al.*, 2008; Duhan, Sandvick, 2009), the role of such relation for the development of co-innovative processes is still not clear.

In fact, when exploring advertising agency-client relationship, studies have mostly aimed to define the nature of this relation, to compare client perceptions to agency perceptions, to identify factors that lead to the selection of an agency, and to recognize reasons for agency-clients splits (Henke, 1995; Fam and Waller, 2008). Particularly interesting for the aims of this work are those studies that have analyzed, on one side, which factors affect a good advertising agency-client relationship and, on the other side, the outcomes of such relationship. As to the former, Wackman *et al.* (1986/1987) distinguish four sets of factors affecting the success of the relationship: work product (the advertising); work patterns (daily aspect in working together); organizational factors (i.e. politics and qualifications of personnel involved); and, relationship factors (i.e. the level of trust and comfort between the two organizations). The crucial importance of "relationship factors" emerges in a wide part of literature. Relationship factors, and in particular trust, are crucial, especially because clients have difficulties – as it is for services in general – in judging the advertising services they buy (Parasuraman, Zeithaml, 1983; Pratt, 2006; Duhan and Sandvick, 2009). Among others, recently, Duhan and Sandvick (2009) have pointed out that trust, commitment and cooperation have a strong influence on the relationship performance<sup>3</sup>. Fam and Waller (2008),

---

<sup>3</sup> The authors define: (i) trust as "a willingness to rely on an exchange partner in whom one has confidence" (quoting Moorman *et al.* 1992, p. 82); (ii) commitment as "an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it, that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely" (quoting Morgan and



instead, have conducted an interesting empirical analysis on advertisers in Hong Kong in order to discover if the factors for successfully working with an agency differ depending on the life-cycle stage of the relationship. They found that clients value trust and commitment highly in the “working stages” of the life-cycle, namely the Inception, the Development and the Maintenance phases.

Another important element for the success of the agency-client relationship is the “people factor”, which in turn is linked to the relational aspects discussed above. The main attributes of the people factor are represented by personnel quality, mutual agreement and understanding, reputation for integrity and interpersonal compatibility (Cagley and Roberts, 1984; Wackman *et al.*, 1986/1987; Fam and Waller, 2008; Zolkiewski *et al.*, 2008). In fact, studies have shown that, as in the case of other services, the advertising services are highly dependent on the people who provide them<sup>4</sup> (Parasuraman and Zeithaml, 1983; Fam and Waller, 2008). Considering the interpersonal dynamics from a different perspectives, some researches have found that in the relationships clients tend to hold the power (Davies and Palihawadana, 2006; Zolkiewski *et al.*, 2008).

Moving on the analysis of the outcomes of the advertising agency-client relationships, the literature has highlighted that its nature is critical to the success of both parties (Michell, 1986/1987; Duhan and Sandvick, 2009). Koslow *et al.* (2006) assert that clients are able to influence the creativity of their advertising agency<sup>5</sup>, because they have control over three dimensions that are vital to creativity: first, they set the direction; second, they provide several forms resources for the agency (budget, consumer researches, time, and so on); and, third, they evaluate the advertiser activity. As a result, often clients (and especially sophisticated and high-ranking ones) receive what they perceive to want, as a “self-fulfilling prophecy”, which dampen, rather than promote, advertiser creative outcome. In their analysis of the literature about the relationship performance, Duhan and Sanvick (2009) point out that several dimension have been used to identify agency performance, and namely: the creative output (e.g. Henke, 1995, Gosh and Taylor, 1999, Crutchfield *et al.*, 2003); the account service quality (e.g. Gosh and Taylor, 1999), the value for money (e.g. Michell and Sanders, 1995); the campaign performance (e.g. Michell and Sanders, 1995), the usefulness (Grayson and Ambler, 1999), the client satisfaction with agency’s performance (e.g. Michell and Sanders, 1995, Gosh and Taylor, 1999). Then, in order to capture the multidimensional aspects involved, they define the positive outcomes of the advertiser-agency relationship in terms of: (1) the advertiser’s assessment of the agency’s performance (the advertiser’s benefit); (2) the advertiser’s resulting willingness-to-pay-more for the services of the agency (the agency’s benefit) (p.888). From the point of view of the agency’s benefit, according to authors, the willingness-to-pay-more describe both the intention to maintain the relationship in the long time (e.g. Davies and Prince, 1999) and the value that the client recognizes in agency services (e.g. Michell and Sanders, 1995).

As noted above, however, notwithstanding the significant amount of studies into the advertising agency-client relationship, it is somewhat surprising to find that there is a paucity of research dealing with the role that such a relationship plays in the innovation processes.

---

Hunt, 1994, p. 23); and, (iii) cooperation as “complementary coordinated actions taken by firms in interdependent relationship to achieve mutual outcomes” (Duhan, Sandvick, 2009, p. 885).

<sup>4</sup> Fam and Waller’s (2008) results support earlier studies that at the Inception stage of the relationship, the people factor is valued as the most important one by advertisers. In their research, people factor includes Interpersonal Relations, Creative Ability, Quality Account Team, and Integrity and Shared Purpose.

<sup>5</sup> According to Koslow *et al.* (2006) a campaign is “creative” when it is both original and appropriate to client needs and expectations.

Moreover, the few studies dealing with this topic assume the *client* perspective: in other term, they try to understand how such relationship contributes to the innovation of a specific campaign, and how it helps the agency to address better the client's needs and expectations (Koslow *et al.*, 2006; Duhan and Sandvick, 2009). However, in light of the new trends that are reshaping the industry (Miles and Green, 2008), as interesting as the client benefits are the *agency* benefits, and in particular in terms of innovation outcome.

#### **4. A critical reassess of the literature on the role of advertising agency-client in innovation processes**

As highlighted before, only a small part of the literature has explored innovation processes in the CIBS and a narrower branch has considered the client's contribution to suppliers' innovative capability. Yet, we think that CIBS represent a very interesting and fruitful context to shed light on the contribution that clients can give to the firm's innovation in business-to-business services, for two main reasons: (i) in these industries the interaction provider-user is essential for innovation; (ii) the degree of replicability of innovation is very low.

First, differently from other KIBS, we can say that in creative industries such as design, architecture, or advertising, the provider-user relationship represents the *main locus of innovation*. The interaction firm-client is more intensive than in other KIBS, and the "people factor" makes a significant difference for the relationships' outcome (Wackman *et al.*, 1986/87; Fam and Waller, 2008). In other terms, for CIBS the main innovation process does not typically consist in the "applications" of a firms' former developed knowledge to solve a client's problem; instead, usually the interaction between the firm and the client acts as an idiosyncratic source of new outcomes (e.g. the briefing phase in the advertising industry).

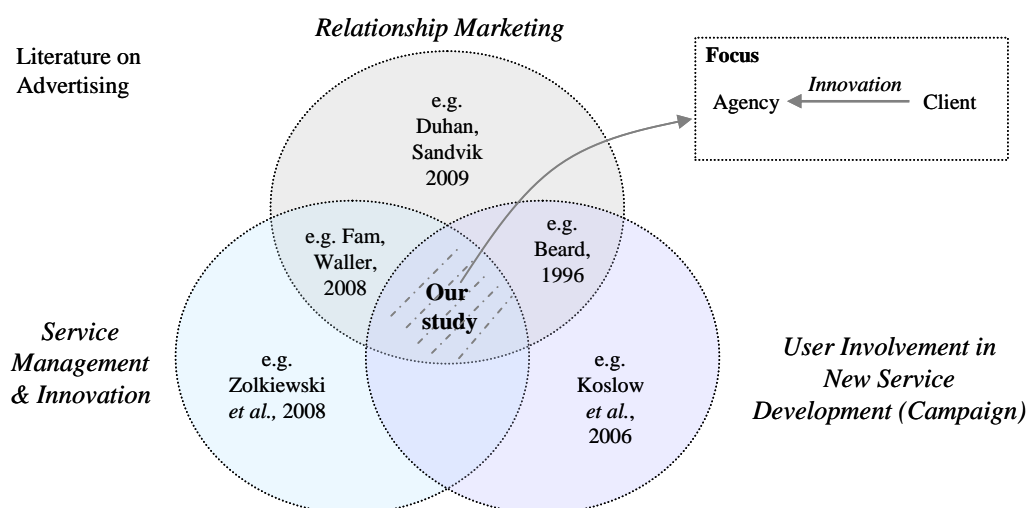
Secondly, in creative intensive services, especially because of the idiosyncratic interaction with client, the reproducibility of innovation is very low. While in other KIBS standardization is more likely to occur (e.g. bank services, auditing services), in CIBS every outcome is different from another one, as it has to be necessarily *ad hoc*. Then, for CIBS the innovation is the service itself.

These features make CIBS – and in particular the advertising industry where we have focused our attention – an interesting setting to deep our knowledge about the role of the client in the provider's innovation processes and, thus, to fill the gap existing in the literature. More specifically, the purpose of this paper is to consider whether it is possible to imagine *deliberate strategies* intended to involve client in the innovation processes of the advertising agency, with the final aim to improve the agency's innovation capability in the long-term. Actually, involving deliberately the client in the CIBS innovation processes is something different from merely "intercepting" him (without a planned strategy) during the process of service innovation, because of the intrinsic nature of the service itself. In other terms, *when the advertising agency-client relationship is effective for the agency's innovation outcomes? Which types of clients has the agency to involve in order to profit in terms of innovative output? Which role have to play the clients involved, and in which phase? Which involvement processes have to be implemented between the agency and its client to get an effective co-innovation process?*

To address these overlooked issues in the context of the advertising industry, this work adopts a perspective that integrates three streams of research: (i) service management and innovation, (ii) relationship marketing, and, (iii) user involvement in new service development. In fact, literature still lacks a comprehensive paradigm that associates these different streams of research, so providing a systematic explanation of the contribution that clients can give to advertising agencies' innovation processes and, more generally, to those one of CIBS. When

analysing the advertising industry, indeed, studies tend to exploit mainly the interpretive lenses referable to the conceptual frameworks of service management and relationship marketing. Therefore, adopting the service management approach (Parasuraman, Zeithaml, 1983; Grönroos, 1990), several studies take into consideration the importance of the people factor for the innovation outcome of the relationship, as well as, the participation of clients in the production process (among others, Grabher, 2002; Fam and Waller, 2008; Zolkiewsky *et al.*, 2008; Duhan and Sandvik, 2009). At the same time, relying on the relationship marketing literature (Morgan, Hunt, 1994), several researches stress the role of trust and commitment for the effectiveness of the relationship agency-client (among others, Wackman *et al.*, 1986/1987; Stoye and Coote, 2005; Fam and Waller, 2008; Duhan and Sandvik, 2009; Davies and Prince, 2010). However, the output of the relationship in term of innovation is under-explored (de Waal Malefyt and Morais, 2010); moreover, the client is considered naturally involved in agency's production processes because of the intrinsic nature of the creative service, but a deliberate agency's strategy is not systematically considered (Beard, 1996); finally, studies mainly adopt the point of view of the client (Koslow *et al.*, 2006), while they do not investigate how agency can benefit from the involvement of client. These issues can be better addressed by integrating insights of the service management approach and of the relationship marketing framework with literature about the role of client in new service development. Our study is positioned at the intersection of these three fields of research (figure 1) and, drawing on their multiple results, proposes a multi-dimensional framework to explore co-innovation processes in advertising agency-client relationships, which is presented in the next section.

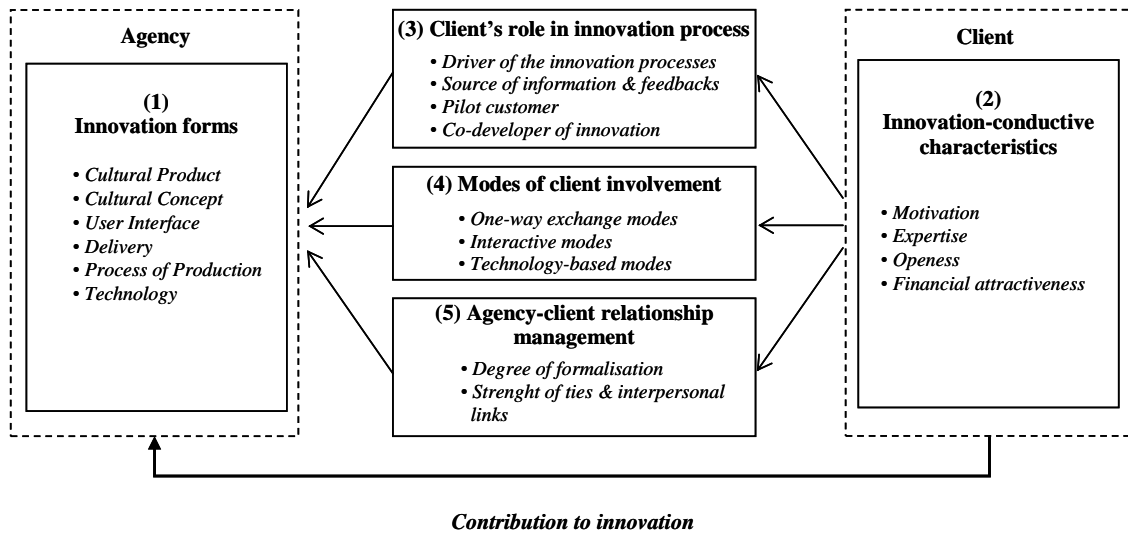
Figure 1: Position of our study in the existing literature on advertising



## 5. A framework for the analysis of the client role in advertising agency's innovation

With aim of exploring co-innovation in advertising agency-client relationships, a conceptual framework has been developed based on the integration of the examined research streams. More in detail, the proposed framework (figure 2) identifies the key dimensions of client involvement to be investigated for understanding clients' role and contribution in advertising agency's innovation processes.

Figure 2: The conceptual framework



### (1) Advertising agency's innovation forms

Before analysing the contribution that client can give to the advertising agency's innovation processes, we define what we mean by innovation. Drawing on previous studies on service innovation (a.o. den Hertog, 2000) and on recent analysis on the advertising industry (Pratt, 2006; Green *et al.* 2007; Miles and Green, 2008) in this paper we adopt a wide definition of innovation, which goes well beyond both the creative content of the advertising campaign and the technological innovation *strictu sensu*. In particular, we refer to the six dimensions of the Green and Miles's (2008) "diamonds of creative industries" previously discussed: *Cultural Product, Cultural Concept, User Interface, Delivery, Process of Production and Technology*. In fact, we think that this model is an effective synthesis of the multi-dimensional aspects that give rise to innovation in creative industries. In particular, along with originality in the content of the advertising campaign and with the technological improvements, this model help us to take into account other important sites of innovation, including new marketing concept or strategies, changed organisational structures and advanced management techniques. Indeed, all these aspects concur to define the agency's innovative capability in the long-term, and, in ultimate analysis, they contribute to the achievement of a competitive advantage.

### (2) Client's innovation-conductive characteristics

With regard to relevant client's characteristics that can facilitate co-innovation processes, the potential application of the lead user concept in this context represents a relevant issue to be explored. Indeed, there is a significant knowledge gap on lead user involvement in innovation of CIBS in general and of advertising agencies in particular. In this direction, one key attribute of lead users is their *motivation* to contribute ideas that will render them a significant benefit. As von Hippel (1987, p.797) specifies, "the greater the benefit a given user can obtain from a needed novel product or process, the greater his effort to obtain a solution will be". While not explicitly addressing this issue, Bettencourt *et al.* (2002) provide some indications for the interpretation of this concept in the context of knowledge-intensive businesses services. In their study on client co-production management strategies, it is proposed that client motivation to work as partners with the provider and to devote the necessary resources

to make the project successful is linked to the strategic priority of the project within the client firm as well as to the complexity and level of customization of the desired solution. This can be also the case of advertising agencies, where it is likely that clients demanding high value-added, *ad hoc* solutions are in the best position to generate and share new ideas and knowledge. Indeed, as Tikkanen (2002) observes in her interesting classification of advertising services, the provision of specialist as well as strategic consulting services (e.g. advertising campaigns, brand identity creation, communication planning, CRM marketing planning, profile analysis) requires the client to actively participate in the value creation process and to exchange business-specific information and knowledge through an intense working relationship with the agency.

Closely linked to the lead user issue is clients' level of *sophistication or in-house expertise* and its potential influence on collaborative innovation. In this respect, an interesting insight is provided by Koslow *et al.* (2006) analysis of clients' influence on advertising creativity, in which it is found out that sophisticated clients with high levels of experience, expertise and understanding of advertising tend to suppress agency's creativity. If client's high level of expertise can translate into an inflexible, know-it-all behaviour that hinders innovative efforts, it can be argued that, on the other hand, their knowledge, skills and abilities can provide a source of valuable inputs for the generation and development of new ideas. Therefore, this dual role of client's sophistication deserves careful examination in order to understand not only its final influence (i.e. positive or negative) on co-innovation possibilities but also the type of client's knowledge and abilities (i.e. specialised or wide-ranging) that best favour collaborative development. For instance, in their analysis of advertising knowledge strategies, Ewing and West (2000) show that agencies can significantly benefit from interaction with multi-brand clients as it increases the opportunities for the cross-fertilization of intellectual capital from one account to another. Thus, a relevant specific issue to explore is the potential contribution of single-brand versus multi-brand clients to agency's innovation processes.

The relative importance of client's motivation and expertise in nurturing co-innovation processes is likely to be influenced by their *openness* to exploration and experimentation of new ideas. In this respect, there is evidence that clients' open-mindedness is crucial for campaign creativity, for the development of innovative methodologies and for client's willingness to work interactively with the agency. In particular, literature shows that the client's "lack of daring" can affect negatively the effectiveness of a campaign: conservative and risk-averse clients, who prefer tried and tested approaches to more experimental ones, have in fact a detrimental ending on agency's creativeness and attempts to explore innovative product development opportunities (El-Murad and West, 2003; Koslow *et al.*, 2006; Zolkiewski *et al.*, 2008; Miles and Green, 2008).

Finally, it can be reasonable expected that client's *financial attractiveness* represents a further relevant characteristic of co-innovating clients. As the amount of budgets dedicated to advertising development supports campaign creativity (Koslow *et al.*, 2008), it is likely that clients' spending capability can also foster exploration and innovation activities in general. Besides, agencies are obviously very motivated to build and maintain long-term, close relationships with big-spenders and thus to devote their resources and efforts to developing positive, win-win interactions with these clients.

### *(3) Client's role in the different stages of the innovation process*

The investigation of clients' role requires careful consideration of the distinctive features of innovation processes in advertising firms. Although the industry is characterised by high levels of innovation activity, innovation processes tend to be spontaneous or *ad hoc*, not

managed according to a R&D model: the generation and selection of new ideas are rarely formalised and planned, and innovation management itself is seldom identified as a discrete activity (Miles and Green, 2008). Accordingly, client involvement in innovation can be hardly addressed with reference to a structured process with separate and sequential stages, which is likely to characterise only larger agencies that allocate dedicated resources to research and development programmes. The analysis of clients' contribution has to be related also to casual, emergent innovation processes that are intertwined with the actual service delivery and are undertaken on behalf of clients in the course of campaigns. In this type of processes clients can play a prominent role in the idea generation by posing specific problems that drive the agency to conceive and develop new ideas or solutions in order to meet their needs. Thus, the client can primarily act as a *driver* of innovation by triggering the initiation of a development project during the working relationship with the agency. Besides, clients can contribute as a *source of information and feedback* on specific issues within the whole innovation process, regardless of its actual configuration. For instance, they can support the conceptualization, screening and evaluation of potential new creative contents and products with in-depth knowledge of specific markets or brands deriving from their experience and/or from in-house marketing research. Also, they can be involved in the innovation process as *pilot customers* supporting the experimentation and trialling of new services, methods or tools during the development of the campaign. Finally, advertising agencies can leverage their clients' resources and expertise by involving them as *active co-developers* of the innovation through an intense collaborative working that brings together the unique expertise and knowledge of both parties in generating, selecting and refining new ideas.

#### *(4) Modes of client involvement*

Also with regard to the analysis of modes of client involvement in innovation, the specific nature of agency-client interaction has to be taken into account. Beside the traditional involvement techniques based on *one-way information exchange* between the provider and the client (e.g. focus groups, interviews, customer visits), more informal and *interactive modes*, such as brainstorming and client integration within *ad hoc* teams, are likely to be particularly relevant as they maximise the opportunities for interorganisational learning. Indeed, they appear to be particularly suitable for exchanging and sharing tacit, symbolic knowledge that is dominant in the production of advertising services (Hermelin, 2009). This is actually reflected in the increasingly widespread practice of advertising agencies to form joint project teams that allow for direct, continuous communication between agency and client staff and campaign co-creation. This exemplified by the case of Mother, a London and New York-based advertising agency that creates campaigns for an array of major brands including Coca-Cola, Unilever, Orange. The agency has implemented a highly collaborative approach, which allows clients to work directly with creative and other agency staff without any middlemen, such as account executives, within dedicated, *ad hoc* teams working on the project. Mother's creatives are involved from the outset and are directly engaged with the client throughout the creative process rather than working in the background. The intention of this approach is to distribute the agency-client relationship across all team members so to ensure direct, informal interaction for the co-creation of the campaign (Dawson, 2005, pp. 266-267). This logic of interactive dialog can also be found in the innovation laboratories established by some of the largest UK communications agencies in order to assist their clients in exploring business and product development opportunities, as reported by Miles and Green (2008). These represent an interesting, emerging form of co-innovation facilities that ideally support intense learning-by-interacting processes.

Being understood that personal and face-to-face contacts play a vital role in this context (Hermelin, 2009), client involvement can be usefully managed also by leveraging *ICT tools for improving agency-client interface*. A wide range of applications are currently available for advertising agencies that facilitate communication flows and provide collaborative electronic work environments for creative production, including extranet tools, proprietary and open web-based platforms. As a matter of fact, technological development, digitalisation, web 2.0 and new on line platforms that have recently reshaped the advertising industry scenario represent a strong stimulus and support to co-innovation with clients. Indeed, more constant and stronger interactions between advertiser and client are claimed as a major benefit of web-based communications, with the result of a more intimate working relationship. Innovative use of new ICT is becoming in fact an important mean to cementing such relationship, as proved by the growth of “on-line zones”, where clients help develop and reinvigorate campaign (Miles and Green, 2008). This is reflected in the growth of web platforms that allow clients (and also final consumers) to actively contribute to campaign creation as well as in the development by many ICT providers, such as IBM, of industry-specific tools for improving communication flows with clients and implementing collaborative electronic work environments for creative production.

#### (5) *Agency-client relationship management*

A final crucial aspect to take into account is the agency-client relationship management. In fact, it is important to investigate which kinds of relationship are more likely to generate effective co-innovation processes. In other terms, how should the agency manage the relationship with clients in order to get innovation outcomes? The first feature to explore is the *degree of formalisation* of the relationship. Advertising agency can govern relationship with client and control relational risk through informal mechanisms of governance (e.g. trust or reputation) as well as through formal instruments (e.g., contracts and procedures for monitoring). Scholars have emphasized that trust and formalization may act as substitutes (Das and Teng, 1998; Inkpen and Currall, 2004) or as complements (Poppo and Zenger, 2002), and that both of them have a variety of performance effects (a.o., Sydow and Windeler, 2003). It is therefore necessary to explore when a higher degree of formalisation helps co-innovation processes, and, on the contrary, under which conditions informal relationships based on trust and reputation are preferable. The issue of the choice of the mechanism of governance become more crucial as the relationship tend to turn in a long-term link – as it typically occurring in the advertising industry (Miles and Green, 2008) and the involvement of client in co-innovation processes grows.

Another key theme to investigate is the link between the *strength of ties* and the contribution of client to the advertising agency’s innovation outcome. Strong ties, based on closeness, trust and cohesion between partners, have been considered as preferable to stimulate innovation processes in KIBS (Amara *et al.*, 2009). However, if, on one side, strong ties promote the exchange of complex information by stimulating social control and exchange repetition, on the other side, weak ties - associated with infrequent contacts, low reciprocity and intimacy, and weak emotional commitment - can provide more heterogeneous sources of knowledge thank to non-redundant information (Granovetter, 1973; Burt, 1992; Capaldo, 2007). When analysing the role of client in agency’s innovation, it is therefore necessary to explore the influence that the interpersonal links between the two organizations generate on the implementation of effective co-innovation processes.

## 6. Conclusions and future research

Initially focused on the product innovation, more recently an increasing attention has been devoted to the contribution of clients in the service innovation. Consistently with its recent development, the literature on this topic appears to be mostly founded on the new service development perspective and focused on a limited range of services, notably production-intensive services (i.e. financial and banking services, technology-based services). Therefore, given the heterogeneity of service innovation processes and types, it can be argued that further research is needed to enhance the understanding of this relevant topic by considering other service innovation settings.

In this respect, we believe that CIBS represent a very interesting and fruitful context to shed light on the contribution that clients can give to the firm's innovation in services, for two main reasons: (i) in these industries the interaction provider-user is essential for innovation; (ii) the degree of replicability of innovation is very low. These features make CIBS – and in particular the advertising industry where we have focused our attention – an interesting setting to deep our knowledge about the role of the client in the provider's innovation processes and, thus, to fill the gap existing in the literature. However, few researches have taken into account innovation processes in CIBS, likely because of the predominance of aesthetic issues in such industries (Miles and Green, 2008; de Waal Malefyt and Morais, 2010). There is an even greater lack of knowledge on how feedbacks from clients can shape innovation in this context, since the most studies tend to investigate the impact that CIBS can have on clients' innovation, without considering the opposite potential influence.

Starting from this gap, this paper try to address whether it is possible to imagine deliberate strategies intended to involve client in the innovation processes of the advertising agency – and how to do it – with the final aim to improve the agency's innovation capability in the long-term. To achieve this objective we integrate the interpretive lens of service innovation and relationship marketing (more frequently adopted in research on advertising) together with the literature on user involvement in new service development, whose insights can help to deep our knowledge about co-innovation with clients in this context. Drawing on these different streams of research, then, a conceptual framework is developed in order to analyse clients' role and contribution in advertising firms' innovation processes.

Future research steps will be aimed at validating the proposed framework and exploring cause-effects links between the considered dimensions in order to better define contingencies influences, its effectiveness and interpretative capacity. Considering the explorative phase of the research, qualitative analysis based on inductive case study method will be privileged, since it appears to be more suitable for the purpose of getting an in-depth understanding of the complex phenomenon examined, especially with reference to the social processes involved.

## References

- Abramovici, M., Bancel-Charensol, L. (2004) "How to take customers into consideration in service innovation projects", *The Service Industries Journal*, 24, 1, pp. 56 -78.
- Alam I. (2002), "An exploratory investigation of user involvement in new service development", *Journal of the Academy of Marketing Science*, 30, 3, pp. 250–261.
- Alam, I. (2006b), "Removing the fuzziness from the fuzzy front-end of service innovations through customer-interactions", *Industrial Marketing Management*, 35, 4, pp. 468–480.
- Alam, I., Perry, C. (2002), "A customer-oriented new service development process", *Journal of Services Marketing*, 16, 6, pp. 515–534.
- Amara, N., Landry, R., Doloreux, D. (2009), "Patterns of innovation in knowledge-intensive business services", *The Service Industries Journal*, Vol. 29, No. 4, 407–430



- Bakhshi, H., McVittie, E. (2009), "Creative supply-chain linkages and innovation: Do the creative industries stimulate business innovation in the wider economy?", *Innovation: management, policy & practice*, 11, pp. 169-189.
- Beard, F. (1996), "Marketing client role ambiguity as a source of dissatisfaction in client-ad agency relationships", *Journal of Advertising Research*, 36 (September-October), pp. 9-20.
- Bettencourt L.A., Ostrom A.L., Brown S.W., Roundtree R.I. (2002), "Client Co-Production in Knowledge-Intensive Business Services", *California Management Review*, 44, 4, pp. 100-128.
- Burt, R. (1992), *Structural Holes: The Social Structure of Competition*, Boston, Harvard University Press.
- Cagley, J. W., Roberts, R. (1984), "Criteria for advertising agency selection: an objective appraisal", *Journal of Marketing Research*, Vol. 24, N. 2, pp. 27-31.
- Capaldo, A. (2007), "Network structure and innovation: the Leveraging of a Dual Network as a Distinctive Relational Capability", *Strategic Management Journal*, Vol. 28, N. 6, pp. 585-608.
- Carbonell, P., Rodriguez-Escudero, A.I., Pujari, D. (2009), "Customer involvement in new service development: an examination of antecedents and outcomes", *Journal of Product Innovation Management*, 26, pp. 536-550.
- Chesbrough H.W. (2011), "Bringing Open Innovation to Services", *MIT Sloan Management Review*, Winter, pp. 85-90.
- Crutchfield, T., Spake, D., D'Souza, G., Morgan, R. (2003), "'Birds of a feather flock together': strategic implications for advertising agencies", *Journal of Advertising Research*, Vol. 43, N. 4, pp. 361-369.
- Das, T. K., Teng, B. (1998), "Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances", *Academy of Management Review*, Vol. 23, n. 3, pp. 491-512.
- Davies, M. A. P., Palihawadana, D. (2006), "Examining service quality tolerance in client-ad agency relationships", *Academy of Marketing Conference*, July 2006, London.
- Davies, M., Prince, M. (2010), "Advertising agency compensation, client evaluation and switching costs: an extension of agency theory", *Journal of Current Issues and Research in Advertising*, vol. 32, n. 1, pp. 13-31.
- Dawson, R. (2005), *Developing knowledge-based client relationships: leadership in professional services* (2nd edition), Elsevier, Oxford.
- de Brentani, U., Cooper, R.G. (1992), "Developing New Successful Financial Services: Strategy for Success", *Industrial Marketing Management*, 25, pp. 231-241.
- de Brentani, U., Ragot, E. (1996), "Developing New Business-to-Business Professional Services: What Factors Impact Performance?", *Industrial Marketing Management*, 25, pp. 517-530.
- den Hertog, P. (2000), "Knowledge-intensive business services as co-producers of innovation", *International Journal of Innovation Management*, 4, 4, pp.491-528.
- de Waal Malefyt, T., Morais R. J. (2010), "Creativity, brands, and the ritual process: confrontation and resolution in advertising agencies", *Culture and Organization*, Vol. 16, N. 4, pp. 333-347.
- Duhan, D., Sandvick, F., "Outcomes of advertiser-agency relationships. The form and the role of cooperation", *International Journal of Advertising*, Vol. 28, N. 5, pp. 818-919.
- Edvardsson, B., Gustafsson, A., Kristensson, P., Magnusson, P., Matthing, J. (2006), *Involving customers in new service development*, Imperial College Press, London.
- El-Murad, J., West, D. (2003), "Risk and creativity in advertising", *Journal of Marketing Communication*, Vol. 19, n. 5/6, pp. 657-673.
- Evangelista, R. (2000), "Sectoral Patterns of Technological Change in Services", *Economics of Innovation and New Technology*, 9, 3, pp. 183 - 222.
- Ewing, M.T., West, D.C. (2000), "Advertising knowledge management: strategies and implications", *International Journal of Advertising*, 19, pp.225-243
- Fam, K.-S., Waller, D. S. (2001), "Agency-client relationship factors across life-cycle stages", *Journal of Relationship Marketing*, Vol. 7, N. 2, pp. 217-236.
- Gadrey, J., Gallouj, F. (1998), "The Provider-Customer Interface in Business and Professional Services", *Services Industries Journal*, 18, 2, pp. 1-15.
- Ghosh, B.C., Taylor, D. (1999), "Switching advertising agency - a cross-country analysis", *Marketing Intelligence and Planning*, Vol. 17, N.3, pp. 140-146.
- Grabher, G. (2002), "The project ecology of advertising: tasks, talents and teams", *Regional Studies*, Vol. 36, n. 3, pp. 245-262.
- Granovetter, M. (1973), "The Strength of Weak Ties", *American Journal of Sociology*, Vol. 78, N. 6, pp. 1360-1380.
- Grayson, K., Ambler, T. (1999), "The dark side of long-term relationships in marketing services", *Journal of Marketing Research*, Vol. 36 (February), pp. 132-141.

- Green, L., Miles, I., Rutter, J. (2007), "Hidden Innovation in the creative industries", London: NESTA Working Paper.
- Grönroos, C. (1990), *Service management and marketing: Managing the moments of truth in service competition*, Massachusetts: Lexington Books.
- Gustafsson, A., Ekdahl, F., Edvardsson, B. (1999), "Customer focused service development in practice. A case study at Scandinavian Airlines System (SAS)", *International Journal of Service Industry Management*, 10, 4, pp. 344-358.
- Henke, L. L. (1995), "A longitudinal analysis of the ad agency-client relationship: predictors of an agency switch", *Journal of Advertising Research*, Vol. 35, N. 2, pp. 24-30.
- Hermelin, B. (2009), "Producer service firms in globalising cities: the example of advertising firms in Stockholm", *The Service Industries Journal*, Vol. 29, No. 4, 457-471
- Higgs, P., Cunningham, S., Bakhshi H. (2008), *Beyond the creative industries: Mapping the creative economy in the United Kingdom*, NESTA Technical report, London.
- Inkpen, A. C., Currall, S. C. (2004), "The co-evolution of trust, control, and learning in joint ventures", *Organization Science*, Vol. 15, pp. 586-599.
- Koslow, S., Sasser, S. L., Riordan, E. A. (2006), "Do marketers get the advertising they need or the advertising they deserve?", *Journal of Advertising*, Vol. 35, N. 3, pp. 81-101.
- Kristensson, P. (2006), "Managing Ideas That Are Unthinkable in Advance: A Matter of How and Where You Ask", in in Edvardsson B., Gustafsson A., Kristensson P., Magnusson P., Matthing J. (Eds), *Involving customers in new service development*, Imperial College Press, London, pp. 127-141.
- Kristensson, P., Gustafsson, A., Archer T. (2004), "Harnessing the Creative Potential among Users", *Journal of Product Innovation Management*, 21, pp.4 – 14.
- Kristensson, P., Matthing, J., Johansson N. (2008), "Key strategies for the successful involvement of customers in the co-creation of new technology-based services", *International Journal of Service Industry Management*, 19, 4, pp. 474-491.
- Kristensson, P., Matthing, J., Magnusson P. (2002), "Users as a hidden resource: findings from an experimental study on user involvement", *Creativity and Innovation Management*, 11, pp. 55-61.
- Kuusisto, A., Riepula, M. (2008), "Customer interaction in service innovation: seldom intensive but often decisive. Case studies in three business service sectors", Proceedings of the 9th International Cinet Conference "Radical Challenges in Innovation Management", 5-9 September, Valencia, Spain.
- Lundkvist, A., Yakhlef, A. (2004), "Customer involvement in new service development: a conversational approach", *Managing Service Quality*, 14, 2/3, pp. 249-257.
- Magnusson, P., Kristensson, P., Hipp, C. (2010), "Exploring the ideation patterns of ordinary users: the case of mobile telecommunications services", *International Journal of Product Development*, 11 (3/4), pp. 289-309.
- Magnusson, P., Matthing, J., Kristensson, P. (2003), "Managing User Involvement in Service Innovation Experiments With Innovating End Users", *Journal of Service Research*, 6, 2, pp.111-124
- Matthing, J., Kristensson, P., Gustafsson, A., Parasuraman, A. (2006), "Developing successful technology-based services: the issue of identifying and involving innovative users", *Journal of Services Marketing*, 20, 5, pp. 288 – 297.
- Matthing, J., Sandén, B., Edvardsson, B. (2004), "New service development: learning from and with customers", *International Journal of Service Industry Management*, 15, 5, pp. 479-498.
- Menor L.J., Tatikonda M.V., Sampson S.E. (2002), "New service development: areas for exploitation and exploration", *Journal of Operations Management*, 20, pp. 135-157.
- Michell, P. (1986/1987), "Auditing of agency-client relations", *Journal of Advertising Research*, Vol. 26, N. 6, pp. 29-41.
- Michell, P., Cataquet, H., Hague, S. (1992), "Establishing the causes of disaffection in agency-client relationships", *Journal of Advertising Research*, Vol. 32, N. 2, pp. 41-48.
- Michell, P., Sanders, N. (1995), "Loyalty in agency-client relations: the impact of the organizational context", *Journal of Advertising Research*, Vol. 25, N. 2, pp. 9-22.
- Miles, I., Green, L. (2008), "Hidden Innovation in the creative industries", London: NESTA Research Report, July 2008 available at: <http://www.nesta.org.uk/library/documents/Report%2013%20-%20HIC1%20v7.pdf>
- Möller, K., Rajala, R., Westerlund, M. (2008), "Service Innovation Myopia? A New Recipe for Client-Provider Value Creation", *California Management Review*, 50, 3, pp. 31-48.
- Moorman, C., Zaltman, G., Deshpande, R. (1992), "Relationship between providers and users of market research: the dynamics of trust within and between organizations", *Journal of marketing Research*, Vol. 24 (August), pp. 314-328.
- Morgan, R., Hunt, S. (1994), "The commitment-trust theory of relationship marketing", *Journal of Marketing*, Vol. 58 (July), pp. 20-38.

- Muller, E., Zenker, A. (2001) "Business services as actors of knowledge transformation: the role of KIBS in regional and national innovation systems", *Research Policy*, 30, 30, pp. 1501–1516.
- Parasuraman, A. (2000), "Technology Readiness Index (TRI): a multiple-item scale to measure readiness to embrace new technologies", *Journal of Service Research*, 2, 4, pp. 307-20.
- Parasuraman, A., Zeithaml, V. A. (1983), "Differential perception of suppliers and clients of industrial services", in L. L., Berry, G. L., Shostack, G. Upah (Eds.), *Emerging perspectives in service marketing*, pp. 35-39, Chicago: American Marketing Association.
- Poppo, L., Zenger T. (2002), "Do formal contracts and relational governance function as substitutes or complements?", *Strategic Management Journal*, Vol. 23, N. 8, pp. 707-725.
- Pratt, A. C. (2006), "Advertising and creativity, a governance approach: a case study of creative agencies in London", *Environment and planning A*, Vol. 38, N. 10, pp. 1883-1899.
- Sandén, B., Gustafsson, A., Witell, L. (2006), "The role of the customer in the development process", in Edvardsson, B., Gustafsson, A., Kristensson, P., Magnusson, P., Matthing, J. (Eds), *Involving customers in new service development*, Imperial College Press, London, pp. 33-56.
- Stoyle, A. L., Coote, L. V. (2005), "Understanding creative campaign implementation: an investigation of its antecedents", *Proceedings of American Marketing Association Winter Conference 2005*, pp. 291-293.
- Strambach, S. (2008), "Knowledge-Intensive Business Services as drivers of multilevel knowledge dynamics", *International Journal of Services Technology and Management*, 10, 2, pp. 152-174.
- Sundbo, J. (1997), "Management of Innovation in Services", *The Service Industries Journal*, 17, 3, pp. 432-455.
- Sundbo, J., Gallouj F. (1998), *Innovation as a loosely coupled system in services*, SI4S topical paper, STEP Group.
- Sydow, J. Windeler, A. (2003), "Knowledge, trust, and control: managing tensions and contradictions in a regional network of service firms", *International Studies of Management and Organization*, Vol. 33, N. 2, pp. 69-99.
- Tikkanen, I. (2002), "Classification of business advertising services in Finland", *12th Nordic Conference on Small Business Research*, May 26 - 28, 2002, Kuopio, Finland
- Toivonen, M., Tuominen, T. (2009), "Emergence of innovations in services", *The Service Industries Journal*, Vol. 29, No. 7, 887–902.
- UNCTAD (2008), *Creative Economy Report*, UNCTAD/DITC/2008/2, United Nations, Geneva.
- von Hippel, E. (1986), "Lead users: A source of novel product concepts", *Management Science*, 32, pp. 791–805.
- von Hippel, E., Oliveira P. (2009), "Users as Service Innovators: The Case of Banking Services", MIT Sloan School Working Paper 4748-09, available at: [web.mit.edu/evhippel/www/papers/SSRN-id1460751.pdf](http://web.mit.edu/evhippel/www/papers/SSRN-id1460751.pdf)
- Wackman, D. B., Salmon, C. T., Salmon, C. C. (1986/1987), "Developing an advertising agency-client relationship", *Journal of Advertising Research*, Vol. 26, N. 6, pp. 21-28.
- Waller, D. S. (2004), "Developing an account management lifecycle for advertising agency-client relationship", *Marketing Intelligence & Planning*, Vol. 22, N. 1, pp. 95-112.
- Zolkiewski, J., Burton, J., Stratoudaki, S. (2008), "The delicate power balance in advertising agency-client relationships: partnership or battleground? The case of the Greek advertising market", *Journal of customer behaviour*, Vol. 7, N. 4, pp. 315-332.

# **ISO 9001 CERTIFICATION: THE CUSTOMERS' PERSPECTIVE**

**Diana Matias, Paulo Sampaio, Ana Cristina Braga**

University of Minho, Portugal,

dianamatias27@gmail.com; paulosampaio@dps.uminho.pt; acb@dps.uminho.pt

## **ABSTRACT**

Based on our own experience and on the literature review carried out the ISO 9001 research studies have mostly addressed certification issues from the companies point of view, namely companies certification motivations and benefits, benefits evolution over time, barriers to the quality management system implementation, evolution and diffusion of worldwide ISO 9001 certification, the impact on organizational and financial performance and the relation between ISO 9001 and Total Quality Management. The ISO 9001 customers' perspective has not yet been deeply analyzed. This paper reflects a pioneer research project conducted in Portugal with the aim of analyzing the customers' perspective concerning the product/service quality provides by ISO 9001 certified and non-certified companies. In order to address this issue, a questionnaire was sent to 5100 companies. The response rate was of 7 %.

**Key-words:** ISO 9000, certification, customer's perspective, impact

## 1. Introduction

In recent years, society and customers, have shown concerns about the performance of products or/and services that are achieved. These concerns have forced companies to rethink their strategies assigning more importance to quality standards. The certification according to the ISO 9001 standard is a recognition of products and/or services conformity, customer satisfaction and continuous improvement.

The number of certified companies in Portugal has steadily increased, and in 2009 there were 7,110 ISO 9001 certifies companies, which corresponds to approximately, 14% of certified companies with 10 or more employees (Sampaio and Saraiva, 2010).

The quality of service/product had become an important research topic because of its relation to costs, profit, customer satisfaction, customer service, driver marketing, financial performance and strategy (Dick, 2002; Pires, 2004).

Based on literature review carried out we are able to find a unique definition of quality. The concept and its definition vary according to the measurement instruments used and are related to different perspectives. However, a broad definition we agree on is that quality is based on the needs, expectations, perceptions and customer satisfaction (Caro and Garcia, 2009).

Companies that decide to implement and certify their quality management system based on internal motivations get larger and more significant improvements in organization and management. Moreover, when top management is deeply involved and committed, the customer is found to demonstrate greater satisfaction (Poksinska *et al.*, 2006; Sampaio, 2008; Sampaio, *et al.*, 2009; Wahid e Corner, 2009). Thus, companies have started to engage in the evaluation of customer's satisfaction. This was also influenced by the fact that the ISO 9001 requires methods for measuring and monitoring if the process by which the service is delivered is according to customer specifications (Dick, 2002).

In order to support an ISO 9001 implementation it is necessary to analyze its impact on customer's, checking the level of satisfaction and confidence in the processes and services provided by the certified companies (Dick, 2002).

## ISO 9001 CERTIFICATION: THE CUSTOMERS' PERSPECTIVE

Several studies addressed customer satisfaction, including their perception and expectations (Parasuraman *et al.*, 1988; Wisniewski, 2001; Muffatto and Panizzolo, 1995; Bond and Fink, 2003; Hall, 1997). One of the most widespread methodologies related to this issue is the SERVQUAL that can be used by managers in order to improve product/service performance. Moreover, ISO 9001 effects have been analyzed regarding customers perception of management issues, such as benefits of certification and productivity improvements. Nevertheless, customer's feedback concerning the perceived differences between certified and non-certified firms has not been systematically analyzed.

The present research aims to fill this gap by focusing on the customer's perspective and considering it as a critical factor for the business quality and its benefits.

Therefore, this paper will analyze the impact of ISO 9001 certification in certified companies' customers. These clients may or may not be companies certified to ISO 9001. More specifically, the paper intends to:

- Identify which requirements of service/product are most valued by customers and if the ISO 9001 certification is crucial to meet those requirements.
- Check if there are differences in the provision of services/products between certified and non-certified companies.
- Analyze if there are significant differences between the level of customer satisfaction of certified and non-certified companies.
- Analyze if the ISO 9001 certification is a key criterion for suppliers selection.

## **2– Methodology**

### **2.1. Questionnaire**

Based on the literature review carried out a questionnaire was developed in order to data gathering.

## ISO 9001 CERTIFICATION: THE CUSTOMERS' PERSPECTIVE

The questionnaire was composed by two main sections. The first one related to general information about the companies and the second are relates to companies service perception and evaluation.

The instrument was tested in four companies in order to identify possible mistakes, ambiguities and improvements.

It final versions was composed by 9 questions and took around 7 minutes to fill in.

### **2.2. Preliminary Results**

In order to expedite the study and to gather more participants, contacts with national entities and industrial associations were made resulting in a partnership with the AIP (Portuguese Industrial Association) and the APQ (Portuguese Association for Quality). These two associations supported this study through its dissemination in their associates' network.

Three hundred sixty eight questionnaires were gathered from companies across Portugal, nevertheless the majority of them belong to “Lisboa e Setúbal” region and “Entre Douro e Minho” region (Figure 1). Moreover, around 59% of the companies have more than 50 employees (Figure 2). Seventy six percent of the questionnaires gathered were from certified companies.

## ISO 9001 CERTIFICATION: THE CUSTOMERS' PERSPECTIVE

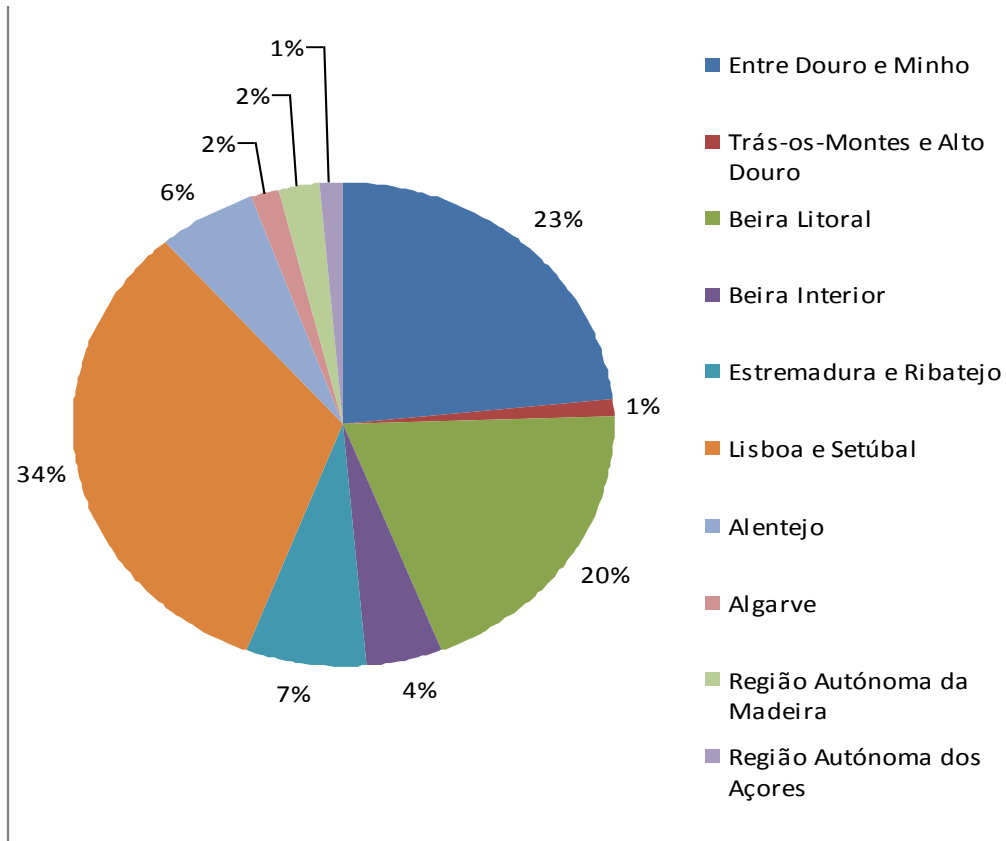


Figure 1 – Data geographic distribution

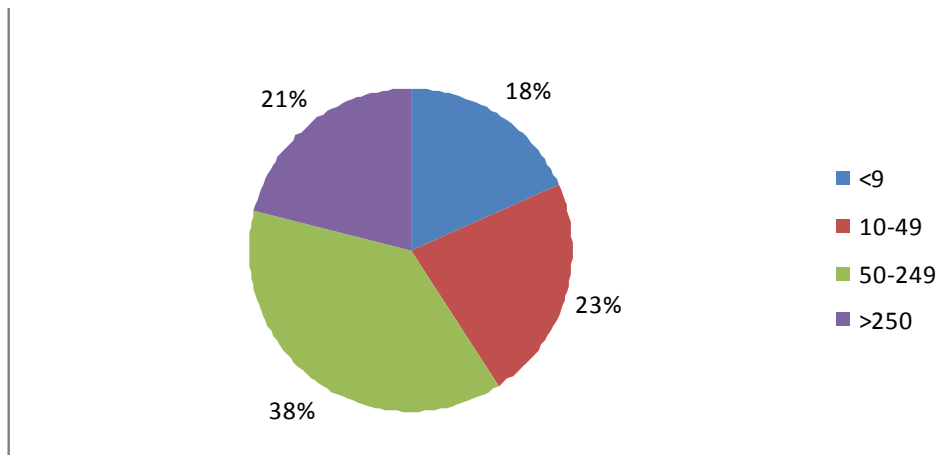


Figure 2 – Companies dimension, according to number of employees.

Currently data analyses are being performed using IBM SPSS Statistics 19 , and the final results will be presented in the conference.



## ISO 9001 CERTIFICATION: THE CUSTOMERS' PERSPECTIVE

Inferential tests will be done to analyze possible differences in customer's responses according to the companies sector. Because the sample is composed by client companies from other companies, with and without the ISO 9001 certification, a stratified analysis will be possible.

### 3– Conclusions

ISO 9001 literature focuses its attention mainly on the advantages of certification for the organization taking into account the improvements in productivity, the motivations that lead to certification, and customer satisfaction analysis (Pires, 2004, Reis *et al.*, 2003, Caro and Garcia, 2009). Generally, the studies analyze certification through the following areas: relationship between the motivations for certification and its benefits, the evolution of the benefits of certification, the certification barriers, the impact on organizational performance and market's, as well as the relation between ISO 9001 and TQM (total quality management) (Sampaio *et al.*, 2009).

The customer satisfaction have been analyzed regarding customers perception of management issues, such as benefits of certification and productivity improvements (Muffatto and Panizzolo, 1995; Bond and Fink, 2003; Hall, 1997), but their perspectives and expectative from product/services of certified companies are been not systematically analyzed.

Findings of this study are expected to be useful for adjusting future ISO 9001 implementations, to inform companies about specific customer needs, and to establish new standards of quality.

#### 4- References

Bond III, E. U. e Fink, R. L. (2003) Customer satisfaction and the marketing-quality interface. *Journal of Business & Industrial Marketing*, 18:3, 204-218.

Caro, L. M. e García, J.A.M. (2009) Does ISO 9000 certification affects consumer perception of the service provider? *Managing Service Quality*, 19: 2, 140-161.

Dick, G.; Galimore, K. e Brown, J. C. (2002). Does ISO 9000 accreditation make a profound difference to the way service quality is perceived and measure? *Managing Service Quality*, 12: 1, 30-42.

Hall, I. W. (1997). Using ISO 9000 to improve customer service. *Training for Quality*, 5: 3, 126-129.

Muffatto, M. e Panizzolo, R. (1995). A process-based view for customer satisfaction. *International Journal of Quality & Reliability Management*, 12: 9, 154-169.

Norma NP EN ISO 9001:2008 – Sistema de gestão da qualidade – Requisitos.

Norma NP EN ISO 9000:2004 – “Sistemas de Gestão da Qualidade. Fundamentos e Vocabulário”.

Norma NP EN ISO 9004:2009 – Managing for the sustained success of an organization -- A quality management approach.

Parasuraman A.; Zeithaml, V. A.; Breey, L. L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*, 64: 1, 12-40.

Pires, A. R. (2004). Qualidade – Sistemas de gestão da qualidade. (3ª edição). Lisboa: Edições Sílabo

Poksinska, B.; Eklund, J.A.E. e Dahlgaard, J.J. (2006) ISO 9001:2000 in small organizations – lost opportunities, benefits and influencing factor. *International Journal of Quality and Reliability*, 23: 5, 490-512.

Sampaio, P (2008). Estudo do fenómeno ISO 9000: origens, motivações, consequências e perspectivas. Tese de Doutoramento em Engenharia de Produção e Sistemas - Ramo do Conhecimento Investigação Operacional. Universidade do Minho.

## ISO 9001 CERTIFICATION: THE CUSTOMERS' PERSPECTIVE

Sampaio, P. e Saraiva, P. (2010) Barómetro da Certificação 2010. Cem palavras, nº4.

Sampaio, P.; Saraiva, P. e Rodrigues, A. G. (2009) ISO 9001 certification research: questions, answers and approaches. *International Journal of Quality & Reliability Management*, 26: 1, 38-58.

Sousa, R. D: O. (2007). Qualidade na Administração Pública. O impacto da certificação ISO9001:2000 na satisfação dos munícipes. Tese de mestrado. Universidade do Minho. Escola de Economia e Gestão. Braga.

Wahid, R. e Corner, J. (2009) Critical success factors and problems in ISO 9000 maintenance. *International Journal of Quality & Reliability Management*, 26: 9, 881-893.

Wisniewski, M. (2001). Using SERVQUAL to assess customer satisfaction with public sector services. *Managing Service Quality*, 11: 6 380-388.

# THE IMPACT OF HOTEL REVIEWS POSTED BY GUESTS ON CUSTOMERS' PURCHASE PROCESS AND EXPECTATIONS

Aurelio G. Mauri, Università IULM, Milano, Italy , [aurelio.mauri@iulm.it](mailto:aurelio.mauri@iulm.it)  
Roberta Minazzi, Ph.D., Università dell'Insubria, Como, [roberta.minazzi@uninsubria.it](mailto:roberta.minazzi@uninsubria.it)

## ABSTRACT

*From the first article published on the topic of electronic word-of-mouth – eWOM (Stauss, 1997) research has rapidly increased, underlining the importance of this phenomenon both in academic and business contexts. The purchasing behaviour of the customer has increasingly changed with the development of new technologies. Therefore, what had traditionally been defined as word-of-mouth (WOM) (Arndt, 1967; Koenig, 1985) needed to be reconsidered and studied in light of recent changes (Buttle, 1998; Breazeale, 2009). Electronic WOM through online reviews on specific websites, company websites, blogs and communities influences various steps of the consumer decision-making and purchasing processes (Schindler and Bickart, 2005) and his expectations of the service.*

*The objective of the paper is to study the impact that customer feedback/reviews posted on “non-transactional” websites have on the consumer decision-making process and on tourist expectations in the hospitality industry, which is particularly affected by this new trend. Many travel services are now bought on the net using electronic distribution systems: flights, hotel stays, car rentals, etc. (Nielsen, 2010; PhoCusWright, 2010). Online reviews play a key role in purchasing travel services (Nielsen, 2010) and “non-transactional” website traffic increased by 4% from 2007 to 2009 despite a decrease for transactional websites (OTA, company websites, etc.) (PhoCusWright, 2009). Therefore, hotel companies should comprehend the way customer feedback influences other consumers' decisions and expectations in order to develop specific marketing strategies that also consider the synergy among social media and the development of mobile technologies.*

**Keywords: electronic word-of-mouth (eWOM), word-of-mouth, hotel reviews, purchase behaviour, expectations**

## **INTRODUCTION**

The Internet is now the predominant means of travel shopping in European countries and has changed the way tourism information is distributed (Buhalis, Law, 2008; Law et al., 2008). 70% of French travellers and nearly 80% of German and U.K. travellers typically use the Internet when shopping for travel, at least as a source of information. The second source of information is personal recommendations from family and friends, which is true of 40% of German and U.K. tourists and less than 40% of French travellers (PhoCusWright, 2010). More recently, tourists have been able to benefit from a new and convenient way of gathering information directly when they arrive at their destinations thanks to the development of mobile technologies (Buhalis, Law, 2008).

The advent of the Internet has brought about a word-of-mouth revolution. In fact, individuals can make their thoughts and opinions easily accessible to the global community of Internet users (Dellarocas, 2003). We can consider eWOM a form of communication that provides a mechanism to shift power from companies to consumers (Hennig-Thurau et al., 2004).

In this context, online reviews play a key role in purchasing travel services (Nielsen, 2010) and “non-transactional” website traffic has increased by 4% from 2007 to 2009 despite a decrease for transactional websites (Online Travel Agencies-OTA, company websites, etc.) (PhoCusWright, 2010).

A study conducted by Gretzel (2007) on a sample of Tripadvisor users confirms the importance of online reviews during the step of travel planning especially in deciding “where to stay” (77.9%). Virtual communities (TripAdvisor, VirtualTourist, LonelyPlanet) are the most-used travel websites (92.3%), especially for gathering information, evaluating alternatives, avoiding unenjoyable places and providing ideas.

Online travel sales, especially for Hotels, account for only 7% in Europe while OTAs are the most-used means of travel booking (PhoCusWright, 2010).

Key segments in online travel are:

- Online Travel Agencies (OTAs);
- suppliers’ direct websites;
- tour operators;
- online corporate booking tools;
- non transactional/media travel sites;
- emerging media and channels (for instance smart phones and social network such as Facebook and Twitter).

These last two operators aim to facilitate and enrich online travel planning, enabling the customer to share information and experiences with other travellers. Actually, non-transactional websites can have two different goals: reviewing and trip planning (such as TripAdvisor and Lonely Planet) and Metasearch (such as Kayak, cheapflights) that compare the offers of different OTAs (Buhalis, O’Connors, 2005). On the contrary, emerging media and channels like social networks (Facebook, Twitter, etc.) are more oriented towards relationships among travellers even if more and more possibilities are given to the companies to directly create personal relationship with the customer (Pan et al., 2007; Jansen et al., 2009; Xiang, Gretzel, 2010). In this group of operators, mobile applications that allow customers to facilitate almost all the steps of the purchase process are the new frontier (I Phone, etc.) (Shankar, Balasubramanian, 2009; Sultan et al., 2009).

This paper focuses on “non-transactional” websites in the hospitality industry and aims to evaluate the influence of customer reviews on his purchase intentions and expectations. Finally, the study intends to verify whether the power of negative consumer comments can be

minimized through appropriate company response. The issue is investigated by presenting an experimental study on the impact of online hotel reviews on consumer decision-making and expectations.

## **1. THE EVOLUTION OF THE CONCEPT OF WORD-OF-MOUTH**

### **1.1. Word-of-mouth vs. electronic word-of-mouth**

The development of new technologies and the trends identified in the previous paragraph pointed out the need to reconsider the concept of word-of-mouth (WOM), as traditionally intended, in light of recent changes (Buttle, 1998; Breazeale, 2009).

Arndt (1967) and Koenig (1985) define WOM as “an oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, regarding a brand, product or service”. WOM involves the exchange of ephemeral oral or spoken messages between a contiguous source and a recipient who communicate directly in real life. Consumers are not thought to create, revise and record pre-written conversational exchanges about products and services. This kind of communication vanishes as soon as it is uttered, for it occurs in a spontaneous manner and then disappears (Buttle, 1998).

Stern (1994) underlines that WOM is different from advertising because it is not influenced and paid for by the company. This increases the perception of credibility by the customers (Bateson, Hoffman, 1999; Ogden, 2001). Villanueva et al. 2008 and Trusov et al. 2009 found that customers acquired through eWOM add more long-term value to the firm than customers acquired through traditional marketing channels.

By analysing these definitions, we can identify the main differences between the traditional concept of WOM and the new idea of eWOM. First of all, eWOM is not necessarily direct or oral because customers write their impressions on the net and they do not vanish immediately; on the contrary, other consumers can consult these reviews even after a long period of time (Buttle, 1998; Breazeale, 2008). In the electronic environment, the opinions that consumers post on the Web are seen by millions, are available for long periods of time, and may be encountered by purchasers at precisely the time they are electronically searching for information about a particular product or service (Ward, Ostrom, 2002). Secondly, eWOM communication is not limited to brands, products or services but can be related to an organization, destination, etc. (Buttle, 1998). Thirdly, although eWOM remains a source of information from the company and different from advertising, it is sometimes incentivized and rewarded (Buttle, 1998). This can create some problems with the credibility of the message, as the source of the message is unknown. In fact, in eWOM communication the information comes from individuals who have little or no prior relationship with the seeker (Xia, Bechwati, 2008; Schindler, Bickart, 2005). It is difficult for the consumer to determine the credibility of the message when it comes from total strangers (Chatterjee, 2001) with diverse backgrounds (Litvin et al., 2008). For this reason, sometimes online travel intermediaries require reviewers to provide personal identifying information (PII) (e.g., name, state of residence, gender, and date of visit/stay) (Xie et al., 2010). This is the case Tripadvisor, for example.

According to Hennig-Thurau et al. (2004) eWOM is “...any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet” (Hennig-Thurau et al., 2004).

Online WOM messages can be shared through posted reviews (consumer opinions on apposite websites), mailbags (customer opinions on the website of the seller), discussion forums, electronic mailing lists (consumer opinions sent by e-mail), personal e-mail, chat rooms (real time conversation on a topic) and instant messaging (one-to-one real conversation on the internet). Schindler and Bickart (2005) conducted a study on a sample of frequent internet shoppers and found that the most frequently-used source of online WOM is consumer reviews and the main reasons are: to gather information about brands or products by consulting the experience of a lot of people and to support or confirm a previously-made decision. Sometimes people search for information just for fun, without any real intention to purchase but this action, even if passive, can influence future purchase decisions.

However, customer comments present some biased information. Firstly, people who post a comment on the net are generally extremely satisfied or extremely dissatisfied (Anderson, 1998; Hu et al., 2007; Litvin et al. 2008). Positive reviews refers to favourable experiences and a consequent recommendation of the product to other customers, whereas negative feedback refers to unfavourable experiences and are meant to dissuade others from buying that product. The customer can have an attitude of aggressive complaint or a more moderate attitude trying to alert other consumers to the risk of the product (Cheng et al., 2006).

Secondly, it is also possible to identify purchasing bias because only consumers with a favourable disposition towards a product purchase the product and have the opportunity to write a product review (Hu et al., 2007).

Thirdly, those who write a comment about a purchased product are influenced by features other than objective product quality, leading to a reporting bias in these reviews. By the way, the listener is generally conscious of this bias and filters the information (Banerjee and Fudenberg, 2004; Hu et al., 2006).

Finally, it is sometimes possible to find fake positive or negative reviews posted by the company or by the competitors trying, in the first case, to improve the company's reputation, and, in the second, to damage the reputation of a competitor (Dellarocas, 2003).

Given the decontextualization, anonymity and bias, eWOM may appear nebulous to consumers. As a result, consumers' interpretations of eWOM and subsequent purchase intention may be substantively affected by their pre-existing disposition toward the service provider (Xie et al. 2010).

## **1.2. Credibility of online customer reviews**

WOM can be analysed considering various dimensions (Mauri, 2002):

- valence (positive and negative);
- intensity (quantity of comments);
- speed (number of contacts in certain period of time);
- persistency (length in time);
- importance (role of comments in the customer decision-making process);
- credibility (in terms of assurance and confidence of the source of the message).

In this study we focus especially on valence and credibility of online comments.

Credibility of eWOM is influenced by informative aspects and normative cues (recommendation consistency, recommendation rating) that may be able to supplement the informational cues (Cheung, 2009).

Argument strength concerns the quality of the information received. It is the extent to which the message receiver views the argument as convincing or valid in supporting its position. For example, the presence of details and personal identifying information (PII) of the reviewers (Xie et al., 2010) describing a first-hand experience and the consensus of other reviewers are generally cues of the message's validity (Schindler, Bickart, 2005; Park et al. 2007). On the contrary, a lack of negative comments and undetailed or very general messages are considered untrustworthy (Schindler, Bickart, 2005; Schlosser, 2005; Doh et al., 2009).

Recommendation framing refers to the valence of the eWOM (positively framed or negatively framed) while recommendation sidedness refers to the content of the message that can contain only one-sided information (positive or negative) or two-sided information (both positive and negative). Two-sided information is generally considered more credible because of the consumer each product has positive and negative features. Therefore two-sided descriptions are perceived as more detailed information influencing the argument strength (Cheung, 2009).

Another key factor is source credibility, which refers to the reputation of the reviewer that is sometimes conferred by the administrator of the website and other times with specific and formal ranking on the basis of the message's helpfulness (Henning-Thurau, 2004).

Due to the bias reported in the previous paragraph, the customer tries to find reviews consistent with his or her prior knowledge or expectations, increasing his perception of review credibility (Xie et al., 2010). In fact, Xia and Bechwati (2008) found that the influence of the comment depends on the cognitive personalization initiated by the reader. If he perceives the situation as familiar, he processes the information in a self-referential manner and the review becomes more credible, valid and trustworthy.

Another important aspect that influences the credibility of an online consumer opinion is the website where it is posted. Feedback on corporate websites is generally considered less credible than those on non-transactional websites (such as Tripadvisor, Zoovers, etc.) (Park et al., 2007). With this in mind, some companies prefer to attach a link to these websites despite creating a guest comment page.

The credibility of the review is therefore a key factor that leads the consumer to consider or disregard the message during the purchase decision process.

## **2. CONCEPTUAL FRAMEWORK**

### **2.1. The impact of online customer reviews on purchase intentions**

Academic studies on the topic of online word-of-mouth have pointed out the impact of consumer reviews on the purchase intentions and decisions of the customers. Online reviews on specific websites, company websites, blogs and communities influence various steps of the consumer decision-making and purchasing processes (Schindler, Bickart, 2005; Park et al., 2005; Buhalis, Law, 2008).

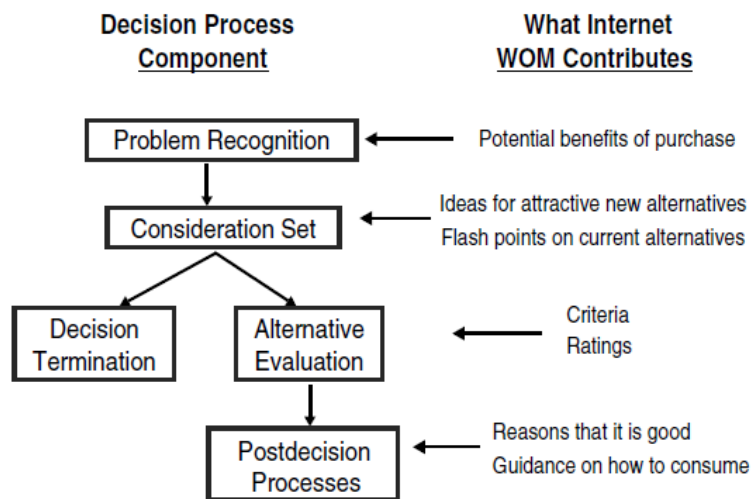
Several recent studies on the topic of eWOM agree on the deep impact of online reviews on customer purchase intentions. An extant stream of work has looked at the economic impact of reviews on companies' financial performances by means of numeric variables representing the valence (positive or negative) and volume of reviews. This hypothesis received strong support in prior empirical studies (Chevalier, Mayzlin 2006;



Dellarocas, 2003; Dellarocas et al. 2006; Forman et al. 2008; Villanueva et al., 2008; Luo, 2009; Godes, Mayzlin 2009).

The effect of eWOM and online travel reviews on consumer behaviour has also been studied in the travel and tourism industry – especially with reference to information searching, holiday planning and purchase decisions (Gretzel, Yoo, 2008; Gretzel et al., 2007; Litvin, et al., 2008; O'Connor, 2008; Papathanassis, Knolle, 2010; Sidali et al., 2009; Vermeulen, Seegers, 2009; Ye et al., 2009).

### Exhibit 1. The impact of online WOM on purchase decision making



Source: Schindler R., Bickart B. (2005), Published 'Word of Mouth': Referable, Consumer-Generated Information on the Internet, in C. Hauvgedt, K. Machleit, R. Yalch (Eds.), *Online Consumer Psychology: Understanding and Influencing Behavior in the Virtual World*, Lawrence Erlbaum Associates. (pp. 35-61).

The valence (positive or negative) of the message is one of the most considered variables. Sen and Lerman (2007) found that the valence of the review (positive or negative) influenced consumer behaviour but in different ways depending on the kind of product (hedonic versus utilitarian). Also, the balance of positive and negative comments can be a factor considered by the customer. In fact, if the consumer perceives a low level of consensus he is believed to think that the authors of negative reviews are unable to use or evaluate the product. On the contrary, in the case of more consensus on the negative side the customer will develop negative inferences towards the product and the brand (Laczniak et al., 2001).

In particular, various studies concentrate on the potentially more influential effect of negative than positive WOM because of the detrimental impact on businesses. A study of Chatterjee (2001) indicates that negative consumer reviews have negative effects on perceived company reliability and purchase intentions. The effect could be more negative in the case of a company unfamiliar to the consumer. Other authors have investigated the behaviour of the dissatisfied customer and found that he is more likely to express feelings to other people through negative WOM (Richins, 1983; Morris, 1988; Hart and Heskett, 1990; Tax, Brown, & Chandrashekaren, 1998).

Bambauer-Sachse and Mangold (2011) confirm with their research that negative online product reviews have detrimental effects on consumer-based brand equity leading to a significant brand equity dilution, even if the brand is familiar to the customer.

On the contrary, other studies affirm that the influence of negative WOM is not so different from that of positive comments (Ricci, Wietsma, 2006). Vermeule and Seegers (2008) found that both positive and negative reviews increase consumer awareness of hotel existence but, if the comments are negative, they lower consumer opinions. Nevertheless, the hotel awareness generated compensates the effect of negative comments, especially if the quantity is low (Vermeulen, Seegers, 2008).

Other streams of research focus on other variables that influence the structural process of how online consumer reviews influence purchase decisions. Park and Lee (2009) investigate and examine the role of national culture on these relationships by comparing U.S. and Korean consumers' behaviours. According to Xie et al. (2010) the presence of PII increases the credibility and subsequently purchase intention of the customer in the hospitality industry.

Some other studies, in contrast to the ones previously cited, found that customer comments on the web are predictors of sales but do not influence them (Chen et al., 2004; Duan et al., 2008).

Another important point is the nature of the product. According to some scholars, WOM recommendations play a significant role in consumers' decision-making processes, especially when dealing with services or intangible products rather than with tangible ones (Murray, Schlacter, 1990; Gremler, 1994). Intangible services are particularly complex and difficult to evaluate prior to purchase and the perception of risk is higher because its quality is often unknown before consumption (Baccarani, Golinelli, 1992; Rosen, 2000; Dye, 2000; Zeithaml et al., 2006). Moreover, in the hospitality industry, WOM recommendations are even more influential due to the nature of inseparability between service production and consumption and the importance of the customer experience (Lindberg-Repo, 2001; Grönroos, 1999).

The first hypothesis of the present research is:

*H1: The hotel booking intention of the customer is different depending on the valence of the review posted on “non-transactional” travel websites: it increases in the case of a prevalence of positive comments and decreases in the case of negative comments.*

## **2.2. The impact of review valence on customers' expectations**

The scholars of services marketing consider WOM as an antecedent of customer expectations. Grönroos (1982) believes that WOM is a key factor that influences expected quality along with marketing communication, company image, price and customers needs and values. Perceived quality is then the result of the comparison between expected quality and experienced quality (Grönroos, 1982; Oliver, 1980 and 1993; Zeithaml et al., 1985). Zeithaml et al. (1993) propose a model that conceptualizes the nature and determinants of customer expectations of services: among others, consumer experience and enduring service intensifiers influence desired service especially in the case of derived service expectations that are driven by other parties. During the step of information research customers gather information about the service from various known (WOM) and generally unknown (EWOM) sources trying to determine what to expect by a specific service. During the communication process customers share experiences that can have a positive or a negative valence (Mauri, 2002).

*H2: The level of expectation of the customer differs depending on the valence of the review posted on “non-transactional” travel websites: it increases in the case of prevalence of positive comments and decrease in the case of negative comments.*

### **2.3. The impact of hotel reply on purchase intentions and customer expectations**

How can a Hotel try to minimize the impact on negative comments on booking intentions and on expectations?

Recent studies suggest that the widespread use of eWOM and online hotel reviews can be an opportunity rather than a threat for hotel managers and operators (Litvin et al., 2008). Companies that understand the importance of WOM are taking advantage of online consumer reviews as a new marketing tool (Dellarocas 2003), posting product information and chatting on online forums. Godes and Mayzling (2009) use the term “exogenous WOM” to describe the proactive actions of companies that induce their consumers to spread the word about their products online (Godes and Mayzlin 2004; Godes and Mayzlin 2009). Viral marketing campaigns are considered more and more important in combination with offline marketing strategies (van der Lans et al., 2010). Some firms even strategically manipulate online reviews in an effort to influence consumers’ purchase decisions (Dellarocas 2006).

Chen and Xie (2008) conducted a study to try to understand the way a company should interact with consumer reviews to increase profits, trying to control online word-of-mouth. They found that the response of the company should change according to the type of product and the kind of information. Other studies confirm that the company should strategically respond to online consumer reviews (Chen, Xie 2005, Dellarocas 2006; Zhu and Zhang, 2010; Xie et al., 2010). However, no previous academic studies have yet explored the effect of company response to customers’ reviews on booking intentions and expectations of the customer.

We also have to consider two kinds of problems that interfere with hotel operator response activity. On the one hand, the hotel operators are not completely conscious of the effect of online word-of-mouth on the customer and, consequently, they undervalue this phenomenon. Moreover, hotel managers sometimes do not have appropriate IT knowledge due to the customer-oriented approach of the service sector. IT has always been seen as an instrument to reach customers but rarely is it integrated into the company’s business strategy (Law, Jogaratnam, 2005; Law et al. 2008). On the other hand, a conflictual relationship between hotel companies and websites that publish travel reviews complicates the situation. Recently, replying to negative comments on the web has become easier for the hotel companies thanks to an improvement in the business relationship and cooperation among offline and online travel operators. Speaking with a few hotel operator we find out that they consider the possibility to reply to customers an important opportunity to increase customer perceptions of service quality and booking intentions. However, hotel managers’ reply can be considered not credible because not independent but related to the company (Buttle, 1998). The consumer could perceive that message very similar to advertising (Stern, 1994) also because the messages generally are not personalized.

Therefore, it is interesting to address the following research question:

*RQ1: the hotel responses to customer reviews posted on “non-transactional” travel websites could have a positive and useful effect on customer booking intention and on his expectations?*

### **3. RESEARCH METHODOLOGY**

An experimental study was conducted to test the hypotheses and the research question in June 2011. To eliminate the possibility of bias, three scenarios were built around an unbranded hotel. In fact, brand familiarity can play an important moderating role in the consumer's perception of comments: familiar hotel brands could be more resilient to review effects than unfamiliar brands (Chatterjee, 2001; Vermeulen and Seegers, 2008).

Those involved in the survey were asked to imagine searching for a hotel for a week-long holiday in an unknown location without any previous experience. This decision was meant to eliminate possible bias from the customers' previous personal experiences. After the presentation of the context, the participant was asked to read other customers' reviews of a hypothetical chosen hotel.

The hotel reviews presented in the three scenarios were created by studying a few comments posted by customers on the main websites used by tourists (such as Tripadvisor). In fact, the structure was very similar to other existing websites but we changed the main recognition seals to avoid any kind of reference to well-known sites and therefore the influence of site brand image. For the same reason, other information about the hotel was also excluded from the survey (price, room amenities and services). The review consisted of a synthetic title, the ranking, the date of the review and the comment of the customer. They were presented in order of date published for the period January 2011-until now (period of research).

The creation of three different questionnaires aimed to verify the previously-stated hypotheses. To do that, the first scenario presented a prevalence of positive reviews (7 vs. 3), the second scenario presented the opposite situation, that is, a prevalence of negative comments (7 vs. 3), the third scenario presented the previous context (prevalence of negative comments) but, in this case, the reply of the hotel manager was reported.

The order of positive and negative reviews was counterbalanced to control any possible order effect (Carlson et al., 2006). To increase comment credibility, we used two-sided information (Henning-Thurau, 2004).

At the end of the comments, participants were asked to answer a few questions to try to understand the soundness of the hypothesis (H1 and H2) and to answer the research question (RQ1). Purchase intention was evaluated on a 7-point scale (1-most likely not to buy, 7-most likely to buy) as was the level of expectation (1 for low expectations, 7 for high expectations)

#### *Respondents Profile*

360 online questionnaires were sent to undergraduate and graduate Italian students with a result of 102 respondents (response rate of 28.9%). The choice was considered appropriate from the age point of view because, according to Italian statistics, more than 30% of people that buy online are between the ages of 25 and 34 (Istat, 2009). Participants were randomly assigned to one of three groups corresponding to three different scenarios.

Respondents are mainly women (73.5%) between the ages of 18 and 25 (82.4%). This composition is also the main limit of the study, that is a pilot study and need to be extended.

**Table 1 Respondents features: age and gender**

		age				gender		
		18-25	26-35	> 36	Total	man	woman	Total
scenario 1	Count	21	6	6	33	7	26	33
	% within scenario 1	63,6	18,2	18,2	100,0	21,2	78,8	100,0
	% of Total	20,6	5,9	5,9	32,4	6,9	25,5	32,4
scenario 2	Count	30	1	0	31	9	22	31
	% within scenario 2	96,8	3,2	0,0	100,0	29,0	71,0	100,0
	% of Total	29,4	1,0	0,0	30,4	8,8	21,6	30,4
scenario 3	Count	33	3	2	38	11	27	38
	% within scenario 3	86,8	7,9	5,3	100,0	28,9	71,1	100,0
	% of Total	32,4	2,9	2,0	37,3	10,8	26,5	37,3
Total	Count	84	10	8	102	27	75	102
	% of Total	82,4	9,8	7,8	100,0	26,5	73,5	100,0

#### 4. FINDINGS

A first result to be analyzed is that more than 76% of respondents consult comments of other customers before booking a hotel. This confirms the importance of online customer feedbacks stated in the previous part of the paper.

The first hypothesis (H1) claims that there is a positive correlation between hotel booking intention of the customer and valence of the review posted on “non-transactional” travel websites. In particular, it increases in the case of a prevalence of positive comments and decreases in the case of negative comments. Comparing the mean of each scenario (table 2), the average score of booking intention rises from 4.10 to 4.52 shifting the scenario from 2 (prevalence negative reviews) to 1 (prevalence of positive reviews). The correlation, by means of Spearman’s rank correlation coefficient, supports H1 (table 3) and demonstrates a positive ( $r_s= 0.246$ ) and significant ( $p<0.05$ ) correlation between booking intention and valence of the message.

**Table 2 Booking Intention and level of expectations according to each scenario**

Scenarios		Booking intention	Level of expectations
Scenario 1 Prevalence of positive reviews	Mean	4.52	4.58
	Std. Deviation	1.121	1.001
Scenario 2 Prevalence of negative reviews	Mean	4.10	4.39
	Std. Deviation	0.900	1.116
Scenario 3 Prevalence of negative reviews with hotel reply	Mean	3.82	4.34
	Std. Deviation	1.205	1.214
Total	Mean	4.13	4.43
	Std. Deviation	1.125	1.113

The second hypothesis (H2) claims that there is a positive correlation between the level of customer expectations and valence of the review posted on “non-transactional” travel websites. Table 2 shows, an average score (M=4.58) higher in the case of prevalence of positive comments than in the case of negative comments (M=4.39). However, we cannot statistically demonstrate a relationship between reviews’ valence and level of customer expectations because, as shown in table 3, the correlation is not significant ( $p>0.1$ ).

Research questions (RQ1) investigated whether the hotel responses to customer reviews posted on “non-transactional” travel websites could have a positive and useful effect on customer booking intention and on his expectations. Table 2 shows that in the case of hotel managers’ responses the average score decreases (M=3.82). The correlation by means of Spearman’s rank correlation coefficient demonstrates a positive ( $r_s= 0.209$ ) and significant ( $p<0.05$ ) correlation between booking intention and the presence of hotel responses (table 4). This result supports the position that considers hotel responses as less credible because not independent from the organization. However, also in this case we cannot demonstrate a relationship between reviews’ response and level of customer expectations because, as shown in table 4, the correlation is not significant ( $p>0.1$ ).

**Table 3 Correlation between review valence (positive vs. negative) and booking intention and level of expectations (H1 and H2)**

<b>Dimensions</b>	<i>r<sub>s</sub></i>	<i>Sig.</i>
<i>Booking intention</i>	0,246	0,014
<i>Level of expectations</i>	0,101	0,313

**Table 4 Correlation between hotel response presence and booking intention and level of expectations (RQ1)**

<b>Dimensions</b>	<i>r<sub>s</sub></i>	<i>Sig.</i>
<i>Booking intention</i>	-0,209	0,038
<i>Level of expectations</i>	- 0,062	0,534

## **5. DISCUSSION**

As expected, the results obtained through the analysis support the first hypothesis of the study that consider valence of reviews posted on “non-transactional” travel websites and hotel booking intention positively related, confirming the persuasive impact that positive comments can have on customer decision making process (Sen, Lerman, 2007; Sparks, Browning, 2011).

The most interesting research point of the study was to verify the effect on hotels’ reply to negative comments on booking intention and expectations. Results show that including the hotel responses to customer reviews has a negative effect on customer booking intention. This confirms the approach that considers the hotel’s reply more similar to advertising and therefore perceived by the customer as less credible because not independent from the organization. Hotel operators should try to reduce negative WOM and stimulate positive reviews through personalized activities that increase customer satisfaction, for example: improving the level of service delivered to the customer by trying to reduce the volume of

negative comments; improving the service recovery when the customer is already at the hotel, stimulating complaints; conducting customer satisfaction surveys and personal interviews and developing guest comment areas on the websites when the customer has already gone home. The effect of online service recovery policies, by means of hotels' reply to negative comments on "non transactional" websites, have not the same effect of personal complaint handling. The message could not be read by the customer who posted the review and other customers perceive it as commercial communication. The hotel company should find other ways to create an interaction with customers on the web, using social media and stimulating positive online and offline word-of-mouth.

## **6. CONCLUSIONS**

The paper demonstrates that booking intentions in the hospitality industry are influenced by valence (positive or negative) of online reviews posted on travel "non transactional" websites, providing further theoretical and practical knowledge on this topic. In particular, online travel reviews is confirmed to be an important source of information which influences customer decision making process and booking intentions.

The presence of hotel managers' reply to customer reviews is not considered a key factor by the customer. On the contrary, it has a negative impact on customer booking intention. The source of information in this case is probably seen as not spontaneous and not independent from the organization.

These results, in light of managerial implications described in the previous paragraph, can support hotel operators in defining integrated communications strategies based on a synergic use of new media and technologies, without forgetting the importance of personal relationships and service recovery when the customer is already at the hotel. In fact, service quality evaluation and customer satisfaction remains key factors stimulating positive online customer reviews.

## **7. LIMITATIONS AND FUTURE RESEARCH**

The present paper is based on an explanatory study that presents some limitations. First of all, it is based on a convenience sample and respondents are mainly concentrated in a specific age and gender group. It is necessary for the future to continue the research on a wider sample. This could be helpful also to verify the relationship between review valence and customer expectations resulted not significant in this study. Secondly, the experimental approach limits the investigation to selected variables. In fact, many other variables can influence booking intentions and customer expectations such as personal interests of the customer. Thirdly, even if credibility standards were respected, creating the reviews content is a limitation to what information was presented in the scenarios.

Future research could explore the relationship between hotel reply to online customer reviews and company image and reputation. Moreover, it could be interesting to verify the actual booking behaviour of the consumer, not only the intention in the pre-purchase step, and the influence of social media on eWOM.

## **REFERENCES**

- Anderson, E.W. 1998. Customer Satisfaction and Word of Mouth. *Journal of Service Research*, 1 (1), 5-17.
- Arndt, J. 1967. The role of product-related conversations in the diffusion of a new product. *Journal of Marketing Research*, 4 (3), 291–295.
- Baccarani, C., Golinelli, G.M. 1992. L'impresa inesistente: relazioni fra immagine e strategia. *Sinergie*, 29.
- Bambauer-Sachse, S. , Mangold, S. 2011. Brand equity dilution through negative online word-of-mouth communication. *Journal of Retailing and Consumer Services*, 18, 38–45.
- Banerjee, A., Fudenberg, D. 2004. Word-of-Mouth Learning. *Games and Economic Behavior*, 46, (1), 1-22.
- Bateson, E.G., Hoffman, K.D. 1999. *Managing Service Marketing*, Dryden Press, Boston.
- Bolton; R.N., Lemon; K.N., Verhoef, P.C. 2004. The Theoretical Underpinnings of Customer Asset Management: A Framework and Propositions for Future Research. *Academy of Marketing Science Journal*; 32 (3), 271-292.
- Breazeale, M. 2009. Word of mouse. An assessment of electronic word-of-mouth research. *International Journal of Market Research*, 51 (3), 297-319.
- Buhalis, D., Law, R. 2008. Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism Management*, 29 (4), 609-623.
- Buhalis, D., O'Connors, P. 2005. Information Communication Technology Revolutionizing Tourism. *Tourism Recreation Research*, 30 (3), 7-16.
- Buttle, F. 1998. Word of mouth: understanding and managing referral marketing. *Journal of Strategic Marketing*, 6 (3), 241–254.
- Carlson, K.A., Meloly, M.G., Russo, J.E 2006. Leader-driven primacy: Using attribute order to affect consumer choice. *Journal of Consumer Research*, 32 (4), 513-518.
- Chatterjee, P. 2001. Online Reviews: Do Consumers Use Them?. *Advances in Consumer Research*, 28, 129-133.
- Chen, Y., Wu, S.-Y., Yoon, J. 2004. The impact of online recommendations and consumer feedback on sales, *Proceedings of the International Conference on Information Systems -ICIS*, 711–724.
- Chen, Y., Xie, J. 2005. Third-Party Product Review and Firm Marketing Strategy. *Marketing Science*, 24 (2), 218-240.
- Chen, Y., Xie, J. 2008. Online Consumer Review: Word-of-Mouth as a New Element of Marketing Communication Mix. *Management Science*, 54 (3), 477-491.
- Cheng, S., Lam, T., Hsu, C.H.C. 2006. Negative Word-of-Mouth Communication Intention: An Application of the Theory of Planned Behavior. *Journal of Hospitality & Tourism Research*, 30, 95-116.
- Cheung, M.Y., Luo, C., Sia, C.L., Chen, H. 2009. Credibility of Electronic Word-of-Mouth: Informational and Normative Determinants of On-line Consumer Recommendations. *International Journal of Electronic Commerce*, 13 (4), 9–38.
- Chevalier, J.A. & Mayzlin, D. .2006. The effect of word of mouth on sales: online book reviews. *Journal of Marketing*, 43 (3), 345–354.
- Dellarocas, C. 2003. The Digitization of Word of Mouth: Promise and Challenges of Online Feedback Mechanisms. *Management Science*, 49 (10), 1407-1424.
- Dellarocas, C. 2006. Strategic manipulation of internet opinion forums: implications for consumers and firms. *Management Science*, 52 (10), 1577–1593.
- Doh, S-J., Hwang J-S. 2009. How Consumers Evaluate eWOM (Electronic Word-of-Mouth) Messages. *Cyberpsychology & Behavior*, 12 (2), 193-197.



- Duan, W., Gu, B., Whinston, A.B. 2008. Do online reviews matter? — An empirical investigation of panel data. *Decision Support Systems*, 45, 1007-1016.
- Dye, R. 2000. The Buzz on Buzz. *Harvard Business Review*, Nov.-Dic., 139-146.
- Forman, C., Ghose, A., Wiesenfeld, B. 2008. Examining the Relationship Between Reviews and Sales: The Role of Reviewer Identity Disclosure in Electronic Markets. *Information Systems Research*, 19 (3), 291-313.
- Godes, D., Mayzlin, D. 2004. Using Online Conversations to study Word-of-Mouth Communication. *Marketing Science*, 23 (4), 545-560.
- Godes, D., Mayzlin, D. 2009. Firm-Created Word-of-Mouth Communication: Evidence from a Field Test. *Marketing Science*, 28 (4), 721-739.
- Goldsmith, R.E., & Horowitz, D. (2006). Measuring motivations for online opinion seeking. *Journal of Interactive Advertising* 6. Retrieved June 10, 2009.
- Gremler, D.D., Gwinner, K.P., Brown, S.W. Generating positive word-of-mouth communication
- Gretzel, U. 2007. *Online Travel Review Study. Role and Impact of Online Travel Reviews*, Laboratory for Intelligent Systems in Tourism, Texas A&M University.
- Gretzel, U., Yoo, K.H. 2008. Use and impact of online travel reviews. *Information and Communication Technologies in Tourism*, 2, 35-46.
- Grönroos, C. 2000. *Service management and marketing. A customer relationship management approach*. Chichester: John Wiley & Sons.
- Haksever, C., Render, B., Russel, R.S., Murdick, R.G. 2000. *Service Management and Operations*, sec. ed., Prentice Hall, Upper Saddle River, N.J.
- Hart, C. W. L., Heskett, J. L. 1990. The profitable art of service recovery. *Harvard Business Review*, 68 (4), 148-156.
- Hennig-Thurau, T., Gwinner, K.P., Walsh, G., Gremler, D.D. 2004. Electronic Word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the internet?. *Journal of Interactive Marketing*, 18 (1), 38-52.
- Hu, N., Pavlou, P.A., Zhang, J. 2009. Overcoming the J-shaped distribution of product reviews. *Communications of the ACM*, 52 (10), doi>10.1145/1562764.1562800.
- Jansen, B.J., Zhang, M., Sobel, K., Chowdury, A. 2009. Twitter Power: Tweets as Electronic Word of Mouth. *Journal of the American Society for Information Science and Technology*, 60 (11), 2169–2188.
- Koenig, F. 1985. *Rumor in the Market Place: The Social Psychology of Commercial Hearsay*, Auburn House Publishing Company, Dover.
- Laczniak, R. N., DeCarlo, T. E., Ramaswami, S. N. 2001. Consumers' responses to negative word-of-mouth communication: An attribution theory perspective. *Journal of Consumer Psychology*, 11 (1), 57-73.
- Law, R., & Jogaratnam, G. 2005. A study of hotel information technology applications", *International Journal of Contemporary Hospitality Management*, 17 (2), 170-180.
- Law, R., Leung, R., Buhalis, D. 2008. Information Technology Applications in Hospitality and Tourism: A Review of Publications from 2005 to 2007. *Journal of Travel and Tourism Marketing*, 26 (5), 599-623.
- Lindberg-Repo, K. 2001. Word-of-mouth Communication in the Hospitality Industry, *Cornell Center for Hospitality Research*.
- Litvin, S. W., Goldsmith, R. E., & Pan, B. 2008. Electronic word-of-mouth in hospitality and tourism management", *Tourism Management*, 29 (3), 458–468.
- Lovelock, C., Wright, L. 1999. *Principles of Service Marketing and Management*, Prentice Hall, Upper Saddle River, N.J.
- Luo, X. 2009. Quantifying the Long-Term Impact of Negative Word of Mouth on Cash Flows and Stock Prices. *Marketing Science*, 28 (1), 148-165.

- Mauri A.G. 2002. Le prestazioni dell'impresa come comunicazione "di fatto" e il ruolo del passaparola. *Sinergie*, n. 59.
- Morris, S. 1988. How many lost customers have you won back today? An aggressive approach to complaint handling in the hotel industry. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 1, 86-92.
- Murray, K.B. 1991. A test of services marketing theory: consumer information acquisition activities. *Journal of Marketing*, 55, 10–25.
- Murray, K.B., Schlacter, J.L. 1990. The impact of services versus goods on consumers' assessment of perceived risk and variability. *Journal of The Academy of Marketing Science*, 18 (1), 51-65.
- Nielsen 2010. *Global trends in online Shopping*.
- Ogden, M. 2001. Marketing truth: Hearing is believing. *The Business Journal*, 16 (52), 17.
- Oliver, R.L. 1980. A cognitive model of the antecedents and consequences of satisfaction decision. *Journal of Marketing Research*, 17, 460-469.
- Oliver, R.L. 1993. A conceptual model of service quality and service satisfaction: compatible goals, different concepts", in Swartz T.A., Bowen D.E., Brown S.W., *Advances in Services Marketing and Management: Research and Practice*, vol. 2, JAI Press, Greenwich, CT.
- Pan, B., MacLaurin, T., Crotts, J.C. 2007. Travel Blogs and the Implications for Destination Marketing. *Journal of Travel Research*, 46 (1), 35-45.
- Park, C., Lee, T.M. 2009. Antecedents of Online Reviews' Usage and Purchase Influence: An Empirical Comparison of U.S. and Korean Consumers. *Journal of Interactive Marketing*, 23, 332-340.
- Park, D-H., Lee, J., Han, I. 2007. The effect of On-Line Consumer Reviews on Consumer Purchasing Intention: The moderating Role of Involvement. *International Journal of Electronic Commerce*, 11 (4), 125-148.
- Pekar, V., Ou, S. 2008. Discovery of subjective evaluations of product features in hotel reviews. *Journal of Vacation Marketing*, 14 (2), 145–155.
- PhoCusWright 2010. *Technology and Independent Distribution in the European Travel Industry*.
- PhoCusWright. 2010. *Consumer Travel Report*.
- Ricci, F., Wietsma, R.T.A. 2006. Product Review in Travel Decision Making. *Information and Communication Technologies in Tourism*, pp. 296-307.
- Richins, M.L. 1983. Negative word-of-mouth by dissatisfied customers: a pilot study. *Journal of Marketing*, 47 (1), 68–78.
- Rosen, E. 2000. *The Anatomy Of Buzz : How To Create Word-Of-Mouth Marketing*, Doubleday, New York.
- Schindler, R., Bickart, B. 2005. Published 'Word of Mouth': Referable, Consumer-Generated Information on the Internet, in C. Hauvgedt, K. Machleit, R. Yalch (Eds.), *Online Consumer Psychology: Understanding and Influencing Behavior in the Virtual World*, Lawrence Erlbaum Associates, 35-61.
- Schlosser, A., Kanfer, A. 2002. Impact of product interactivity on searchers' and browsers' judgments: Implications for commercial Web site effectiveness. Paper presented at the 2001 *Online Consumer Psychology Conference*, Seattle, WA.
- Sen, S., Lerman, D. 2007. Why are you telling me this? An examination into negative consumer reviews on the web. *Journal of Interactive Marketing*, 21, 4, 76–94.
- Shankar, V., Balasubramanian, S. 2009. Mobile Marketing: A Synthesis and Prognosis", *Journal of Interactive Marketing*, 23, 118–129.
- Sidali, K.L., Schulze, H., Spiller, A. 2008. The Impact of Online Reviews on the Choice of Holiday Accommodations. *Information and Communication Technologies in Tourism*, 2, 35-46.
- Sparks, B.A., Browning, V. 2011. The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, [doi:10.1016/j.tourman.2010.12.011](https://doi.org/10.1016/j.tourman.2010.12.011).

- Stauss, B. 1997. Global Word of Mouth. Service Bashing on the Internet is a Thorny Issue. *Marketing Management*, 6 (3), 28–30.
- Stern, B. 1994. A revised model for advertising: multiple dimensions of the source, the message, and the recipient. *Journal of Advertising*, 23, 2, 5–16.
- Sultan, F., Rohm, A.J., Gao, T.T. 2009. Factors Influencing Consumer Acceptance of Mobile Marketing: A Two-Country Study of Youth Markets. *Journal of Interactive Marketing*, 23, 308–320.
- Tax, S. S., Brown, S.W., & Chandrashekaren, M. 1998. Customer evaluations of service complaint experiences: Implications for relationship marketing. *Journal of Marketing*, 62 (2), 60-76. through customer-employee relationships. *International Journal of Service Industry Management*, 12 (1), 44-59.
- Trusov, M., Bucklin, R.E., Pauwels, K. 2009. Effects of Word-of-Mouth Versus Traditional Marketing: Findings from an Internet Social Networking Site. *Journal of Marketing*, 73, 1547-7185 (electronic).
- Van der Lans, R., van Bruggen, G., Eliashberg, J., Wierenga, J. 2010. A Viral Branching Model for Predicting the Spread of Electronic Word of Mouth. *Marketing Science*, 29 (2), 348–365.
- Vermeulen, I.E., Seegers, D. 2009. Tried and tested: The impact of online hotel reviews on consumer consideration. *Tourism Management*, 30 (1), 123-127.
- Villanueva, J., Yoo, S., Hanssens, D.M. 2008. The Impact of Marketing-Induced Versus Word-of-Mouth Customer Acquisition on Customer Equity Growth. *Journal of Marketing*, 45 (1), 48-59.
- Ward, J., Ostrom A. 2002. Motives for Posting Negative Word of Mouth Communications on the Internet. *Advances in Consumer Research*, 29 (1), 428-430.
- Xia, L., Bechwati, N.N. 2008. Word of Mouse: The Role of Cognitive Personalization in Online Consumer Reviews. *Journal of Interactive Advertising*, 9 (1).
- Xiang, Z., Gretzel, U. 2010. Role of social media in online travel information search. *Tourism Management*, 31, 179–188.
- Xie, H.J., Miao, L., Kuo, P-J., Lee, B-Y. 2011. Consumers’ responses to ambivalent online hotel reviews: The role of perceived source credibility and pre-decisional disposition. *International Journal of Hospitality Management*, 30, 178–183.
- Ye, Q., Law, R., Gu, B. 2009. The impact of online user reviews on hotel room sales. *International Journal of Hospitality Management*, 28, 180–182.
- Zeithaml V.A, Berry L.L., Parasuraman A. 1993. The Nature and Determinants of Customer Expectations of Service”, in *Journal of the Academy of Marketing Science*, 21 (1), 1-12.
- Zeithaml, V.A., Bitner, M.J. and Gremler, D.D 2006. *Services Marketing*. Boston: McGraw-Hill.
- Zhu, F., Zhang, X. 2010. Impact of online consumer reviews on sales: the moderating role of product and consumer characteristics. *Journal of Marketing*, 74, (2), 133–148.

## **Facilitating network-building services for social innovation: the case of “The HUB (Milano)”**

Angelo Miglietta  
IULM University, Milan  
E,mail: [angelo.miglietta@iulm.it](mailto:angelo.miglietta@iulm.it)

Matteo Pessione  
University of Turin  
E-mail: [matteo\\_pessione@fondazioneCRT.it](mailto:matteo_pessione@fondazioneCRT.it)

Fabio Cassia  
University of Bergamo  
E-mail: [fabio.cassia@unibg.it](mailto:fabio.cassia@unibg.it)

**Keywords:** network-building services, knowledge management, entrepreneurship.

The intangible assets of companies (most notably, intellectual and social capital) have increasingly acquired a strategic role in the development of innovative products and services that may adequately respond to the needs of contemporary society. In particular, a crucial factor in this respect is the ability to access, activate, and efficiently manage local as well as international networks that may increase the value of social capital through an effective process of knowledge and skills transfer both within a company (subsystems consonance and resonance) and between different companies (inter-systems consonance and resonance).

However, such networks do not always emerge spontaneously and the intervention of a facilitator is often needed. Our research focuses on the analysis and assessment of the services offered by for profit and non profit organizations specialized in creating support networks for the development of new projects. This paper provides a specific case study based on The Hub, a project started in London in 2007 and aiming to create links between local companies and organizations and a broader international context (networks and markets). In doing this, The Hub adopted a dynamic and flexible perspective (in both cultural and social terms) which involves encouraging public bodies, for profit and non profit organizations to engage productively with each other in the development of social innovation projects – i.e. innovation with a positive impact for society.

In particular “The HUB Milano” is a node of a worldwide network comprising 24 HUBs, with the mission of supporting entrepreneurial projects aimed to social innovation. More than 450 people participate in the activities of “The HUB Milano”, which include more than 100 projects.

In assessing the added value of the ‘network creating organisations’, our analysis will make use of the resource dependence theory and the perspective of knowledge management.

### **1. The role of networks in the growth of an organisation’s social capital and knowledge management.**

The concept of social capital assumes that the strategic choices of a company are influenced by the availability of not only financial resources, but of social resources as well, particularly those which can be defined as "relationship networks".(Bagnasco et al., 2000)

Therefore, social capital can be defined as a resource which is “*represented by the strength of cohesion, support and restitution of identity that the local community in which one lives is able to make available to individuals*”.<sup>1</sup>

Today, social capital is also the object of study in the field of the sociology of relationships, which has identified two types of social capital according to the relationship framework one is referring to (Rossi 2003):

- **primary social capital:** enhances primary relationship resources by following informal criteria. It can in turn be divided into *family social capital*, within the context of family and close relatives, and *extended community social capital*, which regards social groups of friends and neighbours;
- **secondary social capital:** enhances secondary relationship resources, operating according to formal criteria. It can be divided into two sub-categories, *associative social capital*, typical of social networks that arise in the non-profit sector, and *generalised social capital*, which regards the relationships of each individual with another or with institutions.

Social capital, therefore, can be considered a factor of production in the same way as physical capital and human capital.

An environment in which people are provided with the opportunity to meet and exchange knowledge can indeed help build fruitful ground for the creation of common values and the spreading of reciprocal exchange. In such a way, interaction among those who create a social network is encouraged and their behaviour becomes easier to predict thanks to the greater diffusion of information. This leads to a reduction in monitoring and transaction costs, favouring exchange and stimulating investment and production (Sabatini, 2004)

The concept of social capital, measuring the potential for wealth creation that derives from the various forms of association, enables one to explore the impact of civil society in terms of economic performance.

It is possible, from this perspective, to identify strategies for the stimulation of economic growth through the social capital that can be found in networks, including (Macke, 2010):

1. high levels of social trust and strict rules of reciprocity reduce transaction costs;
2. social networks minimise the risks run by their members;
3. social networks make it easier to communicate information quickly and this allows a reduction in asymmetries between the various nodes;
4. social networks allow their members to easily resolve problems of collective action.

The map of the relationships that arise and develop between individuals gives life to a social network, constituted by connections that are created within it and in which the procedures forming these relationships are highlighted, from casual relationships to closer friendships and family relationships.

The theory of networks put forward by Barabasi (Barabasi, 2004) represents a fundamental tool for understanding the structure of a social network. The analysis of a network system can be based on two elements: nodes and links.

The former represents the units, the members, who compose a network; the latter represents the bonds, the connections, the relationships that are born between the various nodes.

The majority of these connections are stable, or at least stable enough to structure contingent situations, and the players making up the network often take their existence for granted.

---

<sup>1</sup> 2°Rapporto sui dati toscani dello studio HBSC 2005-2006

## 2. Business network and connectivity index

In the study of networks, the concept of the *business network* can be introduced, as analysed by the Swedish school ARA.

The business network is arranged on three levels (Lopes, 2007):

- the characteristics of the members who give rise to a network and the resources they contribute so that the network functions well;
- the relationships that are created between the network's various nodes, their intensity and duration;
- the evolution of the structure of the network's nodes.

Analysing the first point regarding the characteristics of those who create the network, Coleman (Coleman, 1990) has studied the birth of small communities of networks, inaccessible to other networks, focussing attention on the expectations and the obligations of those who belong to them, analysing what has led them to such closure with respect to other networks.

The study revealed that the social capital created in these closed environments produces mutual trust between the various members of the network, and the bonds created are so strong that the actual personal reliability of the individual members is overlooked. This led to the conclusion that the closure of a network is enough for its members to establish laws which govern the way they socially interact, exclusive laws which are only applicable in that specific context.

Another theory that analyses the characteristics of the constituent members of a network is the *Network Exchange Theory*, which describes the mechanisms that generate the diversities of "power" between the positions occupied by the nodes of a social network. (Willer, 1999)

The theory is formulated from a structuralist perspective, in as much as it considers the structural properties of both the network and of the components that constitute it, such as the strength and number of links. Such aspects represent the social cohesion between those who belong to the network.

This theory assumes that all participants in the network constantly strive to maximise their power, or rather their control over the other nodes, trying to resist the pressure of subordination exerted by the other components.

The empirical research carried out from a structuralist perspective revealed that there is a cause and effect relationship between the position occupied by the members of the network and the relative satisfaction they draw from the development of group processes (Segre, 2007).

In the study of network development and the possibility of knowledge transfer through the links that connect the various nodes, it is important to take *connectivity analysis* (Mazzoni, 2005) into account, i.e. the analysis of how well a network is connected, whether there are elements that remain detached from it and that therefore prove to be inaccessible.

The index that emerges from this analysis is defined as the connectivity index, and it indicates the vulnerability of the social network in question: the weaker the links between the various members of the network, the more the network is liable to break up, making groups and sub-groups of members unreachable.

If the social network is composed of strong and consolidated links between the various nodes, if a certain contact should disintegrate, the flow of information would be so strong that it would suffice to rely on the links established with the other members to avoid being isolated.

Therefore, what functions as a Knowledge Building Community takes on a crucial role, in as much as it does not only serve to spread knowledge, but also to coordinate and manage participation and the interaction between the various nodes of the social network, preventing members from becoming isolated and without links.

*"Networks are the raw materials with which new organisations are and will be constituted"*  
(Castells, 2002)

It is with this statement that Castells introduces the concept of a *global networked business model*, a model that represents the internet economy, adopted by Cisco Systems, a business that supplies network solutions.

This model is founded on three fundamental principles<sup>2</sup>:

- a factor of competitive advantage is constituted by the relationships that a business establishes and maintains over time with the individuals that belong to it;
- the solidity of these relationships depends on the way in which a business shares information and systems. The *fabric* that forms the network for the conveying of knowledge must be “interconnected”;
- the *global networked business* model makes information available to all the key members of the company, exploiting the network in order to obtain a competitive advantage.

As confirmation of this, through the organisation of both internal and external operations into a network, Cisco Systems states how: “The origin of innovations can only be understood when the complexity of technology is fully appreciated” (Antonelli, 2011), since, thanks to the application of IT tools, information technology can be improved through organizational networking fed by information networks.

From what has been stated, the transfer of knowledge and the sharing of resources can bring benefits to the organisation, but the organisation has to be actively committed to the exchange of information and knowledge between the various nodes of the social network.

A study has been carried out (Song et al., 2008) to examine how the privileged positions that occupy some of the nodes of the social network encourage an increase in their social capital and, as a consequence, access to opportunities and resources otherwise unattainable.

This research revealed that interactions between nodes that occupy privileged positions in the network and the knowledge processing styles of organizations can influence the effectiveness of knowledge management as a whole.

Indeed, the key node positions can be immediately associated with:

- links, or bonds with other members;
- information and knowledge of the benefits of access;
- more active communication with the other nodes.

The nodes that occupy key positions are the hub of all communication activities and it is them that can obtain access to richer sources of knowledge and information; this makes their knowledge management practices more effective, as thanks to the positions of “power” that they occupy, they have a deep knowledge of the members of the network.

### **3. Social enterprises and value creation**

The term “social enterprise” or “social entrepreneurship” indicates business ventures, having “double bottom line” in that they are trying to achieve social as well as economic objectives (Harding, 2004). Social enterprise has emerged as a businesslike alternative to the traditional nonprofit organization (Dart, 2004), as a response to several environmental turbulences (Harding, 2004) and to frequent public and private business failures (Bull, 2008). More specifically, this model has emerged in the last 20 years due to the following phenomena (Bull, 2008):

- the decline of state involvement in the planned delivery of services in society;
- the rise of entrepreneurship;
- changes in funding opportunities within the society and particularly in the non-profit sector, from grants to contracts.

---

<sup>2</sup> Cisco Systems, *The Global networked business: a model for success*, rapporto online, 20 luglio 1999

Despite the unquestioned interest in the subject, a single definition of social entrepreneurship remains is still not available (Harding, 2004, p. 40). According to Dees (1998), social entrepreneurs act as change agents in the society, because they:

- Have the mission of creating social value and not just private value;
- Are able to recognize and pursue new opportunities to meet their mission;
- Work in a loop of continuous innovation, adaptation, and learning,
- Have a strong sense of accountability for the outcomes of their activity.

Hence social enterprises act as change agents because they innovate, driven by the desire to create and increase social value (Harding, 2004, p. 41).

Some other researchers use the term “social enterprise” to indicate organizations becoming more market driven, businesslike (Dart, 2004), whose revenue streams are commercial ones, as for the other companies (Harding, 2004). This point of view remarks the difference of social enterprise from common nonprofit organizations. Nonetheless Chell (2007) observes that it is possible to position social enterprises along a spectrum from the purely philanthropic to the purely commercial models. For example, in her analysis of social enterprises’ revenue models, Harding (2004) found the following results:

- All public funds and no sales (29.6% of social enterprises);
- No public funds and no sales, mostly private sector donations (17.5%);
- Some public funds and some sales revenue (23.3%);
- All sales revenue and no public funds (29.6%).

According to the institutional theory, the emergence of social enterprises in the current scenario can be understood in terms of consonance (Golinelli, 2010) with the pro-business ideology that has become dominant in the social context (Dart, 2004). From this consonance, the model of social enterprise derives its legitimacy. It is then not surprising that several incumbents in the traditional not for profit sector are trying to reposition themselves toward the model of social enterprise, through a greater commercialization (Chell, 2007). As regards the behavior of social entrepreneurs, several researchers note that it possible to apply several similar conceptualizations to both the economic and the social entrepreneur, because they behave entrepreneurially to engage in a process that creates value, by pursuing opportunities and with the purpose of sustainability.

Many governments have taken an active interest in social enterprises (Bull, 2008). In Italy, the social enterprise has been specifically regulated by recent laws (Legge 13 giugno 2005 n. 118; Decreto Legislativo 24 marzo 2006 n. 155), according to which (Italian Ministry of Labour):

Social enterprises offer resources and services aiming at social utility and, while they do not pursue profits, they make sure to maintain a balanced budget. In particular,

- they are required by the law to either reinvest returns or financial year surpluses in their institutional activities or add them to their endowments;
- they are forbidden to redistribute (directly or indirectly) all kinds of returns, surpluses, reserve funds or capitals to their administrators/managers, members (both natural and legal persons), collaborators and employees. This is to ensure that the participation in the activities of the enterprise has no speculative aims;
- their main activity must be grant-making in the form of resources and/or services that will promote the social or ethical advancement of society;
- they can operate both within both non-entrepreneurial and typically entrepreneurial legal frameworks.

Finally it should be highlighted that despite its actual relevance for the welfare system of the society, the role of social enterprises has been widely under-estimated and misunderstood (Harding, 2004) and that despite the fact that social entrepreneurship is on the way to become an autonomous academic field of study, the fundamental concepts related to social enterprise have yet to reach a level of common understanding (Bull, 2008). Thus the role of social enterprise in creating economic and social value needs to be examined more closely (Harding, 2004)



#### 4. “Network incubator” model

Starting a new venture requires a new set of relationships with several stakeholders to be created, including investors, suppliers, employees and so on. Such a task may imply a lot of time and efforts on behalf of the entrepreneur (Wickham, 2011). Several support services are available to help entrepreneurs to develop the required networks. In particular, a key role is played by the so-called incubators (Suk and Moowen, 2006).

Grimaldi and Grandi (2004) suggest a classification of four different types of incubators which provide specialized support services for new ventures:

- **Business Innovation Centres (BICs)**, which offer a set of basic services to tenant companies, including the provision of space, infrastructure, communication channels, and information about external financing opportunities,.
- **University Business Incubators (UBIs)**, institutions that provide support and services to new knowledge-based ventures; they are similar to traditional BICs but they place more emphasis on the transfer of scientific and technological knowledge from universities to companies. Among the other services, they also offer access to business networks.
- **Corporate Private Incubators (CPIs)**, which are incubators owned and set up by large companies to support the birth of new independent business units.
- **Independent Private Incubators (IPIs)**, are incubators set up by single individuals or by groups of individuals (or companies), whose purpose is to help entrepreneurs to create and grow their business.

In general, in the last 20 years the focus of incubators has shifted remarkably from the provision of tangible to intangible and higher value support, including in particular access to advanced competencies, learning experiences, knowledge, networking and synergies (Grimaldi and Grandi, 2004). More specifically modern incubators’ focus is on supporting strategic technological and commercial partnerships between new ventures and incubators’ networks of partners.

Based on an extensive research on 169 incubators, Hansen et. al (2000) identify a specific model of incubator, which they name “network incubator”, which is more close to the current needs of start-up companies and to the current networked economy. The key factor of network incubators is that it has mechanisms to foster partnerships among start-up companies (and other companies), to facilitate the flow of knowledge and talent across companies, to support the creation of marketing and technology relations among them. Through the help of a network incubator, start-up companies can network to obtain resources and knowledge and to gain access to partners and advisers. However network incubators represent only a part of the total active incubators, 26% according to the research by Hansen et al. (2000):

<b>Service provided by the incubator</b>	<b>% of the 169 analyzed incubators offering this service</b>
Coaching	97%
Information technology	93%
Recruiting	91%
Public relations	90%
Accounting	88%
Legal	87%
Funding	86%
Office space	84%
Pooled buying programs	64%
Organized networking	26%

## 5. The birth of an innovative network

*The Hub* is an international network in which physical space is offered to creative people, social entrepreneurs and professionals. More specifically, it is defined, as a place that offers “space, resources, connections, knowledge, talent, market opportunities and investments” to anyone with ideas that can contribute to “creating a better world”.

The Milan Hub, demonstrating the fact that something unique and innovative is emerging, has acquired great consensus among the public, so much so that just ten days after its inauguration it was able to boast more than 100 active members.

“Think and Tank Do”: with this phrase one can clarify the mission and verbal map of what is a new idea, born three years ago and now present throughout the world, and which defines itself as “the furthest reaching network of innovation centres in the world”.

The Hub is a physical place (Tank) connected within a network of people and businesses in which one creates, thinks and produces knowledge (do).

The mission of The Hub is to support the process of generating ideas and projects for those who are trying to build a “better world”, working on the pre-incubation of the said ideas and projects.

The creators of The Hub start from an important assumption: that innovation is the product of contaminations and contradictions. That is why it is crucial that the professional or creator, during the conception phase, has a place, a physical space, where he/she can come into contact with others, discuss and, why not, receive “contaminations” that may modify his or her original idea.

The core business of this organisation is the world of social and environmental innovation, with a particular focus on the transition from “responsible” profit to non-profit. Indeed, The Hub in Milan is based on an innovative model of *governance*, whose aim is to generate financial profit by pursuing ethical objectives, proving that *ethics* and *profit* can coexist and trying to become a model of excellence in the world of *social businesses*.

The Hub was born about 4 years ago and operates in 20 cities and on 5 continents, counting over 6000 members throughout the world who have developed thousands of projects with the aim of building a better world. The Hub has become, as it says on the website, “the furthest reaching network of innovation centres in the world”.

What The Hub’s centres propose goes well beyond the mere use of a space for incubation and co-working. Thanks to the cooperation of an expert team of Hosts, each individual Hub can offer added value which distinguishes it from any other physical place: free access to knowledge, experience, market opportunities, interdisciplinary talent and human capital, normally closed off to social innovators.

The Milan Hub is: “The first Italian node of this network and the first centre in Italy dedicated exclusively to social innovation and to the people who promote it”.

The layout of the premises is also extremely distinctive. The Milan Hub, for example, is arranged across more than 570 m<sup>2</sup>, most of which can be modulated, and is composed of five halls. This means that one can work conventionally, at a desk, or even lying down or standing up, according to each individual’s needs.

Finally, in support of this network of people that was born and is growing within these walls, there is an online platform with 5,000 social innovator profiles, where the various users can interface and interact.

## 6. The Hub: an innovative incubator

### 6.1 The profiles of The Hub members

The Hub<sup>3</sup> is an international network of social innovation centres. One needs to start from the assumption that The Hub is a network founded on local members, each one then contributing to enriching the international system of the other Hubs.

As an international network, they form a network of networks: each Hub in turn represents a territorial network which gathers anything from dozens, for the smaller Hubs, to hundreds, for the larger Hubs, of members. Such members are defined as *social innovators/entrepreneurs*.

There is a huge diversity of people that become part of the network of Hubs, all with different expectations and needs but brought together by a single ethical vision of the world: the world with unresolved problems that needs a collaborative context in which to find new solutions and ideas.

The profiles of the members who bring projects to the Hubs can be outlined as follows.

- **University students:** they could be young people who are taking their first steps into the world of social entrepreneurship.
- **Professionals:** they may present start-up projects in the technology field but which are strongly oriented in their mission towards social and environmental impact; they may be freelance, consultants in specific technical fields and who offer their skills to the system.
- **Employees of financial companies/institutes:** they may work in the area of corporate social responsibility; they may work in banks and deal with the non-profit sector.

In the Hubs, one tries to go beyond the mere technical skills of the individual and add emotional synergy to the mix as well.

### 6.2 The components that characterise a Hub

Hubs are different because they have unique characteristics that other incubators do not have:

- a highly extensive social network where it is extremely easy to meet the expert or professional that one needs in order to develop one's project;
- inside The Hub there are network facilitators (hosts) that support those entering the Hub in creating networks;
- an international network of spaces and people upon whom one can depend in moments of need.

There is no time limit on being accompanied and supported. The hope is that whoever enters the Hub with a start-up project can incubate and develop it in that particular environment, and that it can subsequently obtain tangible results in reality. Moreover, unlike the classic incubator, a membership fee must be paid in order to join the Hub.

Defining a typical Hub is difficult, but if a Hub is defined as a complex system, it is composed of three components:

- **Space:** physical space becomes a meeting point, a territorial fulcrum that in turn is located inside specific geographical nodes. It also becomes an incentive for people to start interacting within a physical space.
- **Network of people:** It forms around the space, but people interact with it in very different ways according to their needs. Some interact more physically, others more virtually;
- **Connectivity:** collaborations that arise within such space.

Therefore, the equation that triggers collaboration is the following:

---

<sup>3</sup> Thanks for informations to Alberto Masetti Zannini, Founder - The Hub Milan.

***(Hub spaces + Hub networks + Hub links) + changemakers = HUB radical collaboration.***

One speaks of *radical collaboration* because The Hub project supports: “*Innovative ideas for a radically better world*”.

The term *radical* indicates a situation of urgency, innate in the project itself, as it is acknowledged that the challenges carried forward in The Hubs, from the environmental problem to climate change, need our social and economic systems to be radically rethought, and this can only happen if there is a dawning of agents of change that are given space to develop their ideas.

The *changemakers* are relevant to a particular sector. For example, Anita Roddick, founder of the Body Shop in England, whose husband provided the funding to set up the first Hub in London, was a changemaker in the world of enterprise.

She said that enterprise had to be an engine for social transformation, an agent for positive impact. Another example, an Italian one in the non-profit sector, could be Carlo Petrini, founder of Slow Food and Terra Madre.

Getting back to the Hub, the network of relationships that is created is supported by the *hosts*, facilitators of this system who work with all three components listed above:

- they manage the space, enhancing the services linked to the space itself;
- they work with the network, creating and strengthening communities, organising social events;
- they encourage connectivity, or rather the ability to create a context in which people begin to collaborate. This function can be performed according to various methodologies. The one adopted by the Hub is the Art of Hosting, an internationally recognised methodology. A collaborative definition by several Art of Hosting stewards: “Art of Hosting is a global community of practitioners using integrated participative change processes, methods, maps, and planning tools to engage groups and teams in *meaningful conversation, deliberate collaboration, and group-supported action for the common good.*”<sup>4</sup>

Hubs are defined as centres for innovation and social entrepreneurship, since they contain start-up initiatives that have shown the hosts a certain potential to generate a strong social/environmental impact, to be innovate and to develop within these spaces. They use the said spaces as offices, support, meeting rooms, but above all as a means to access a highly diverse network of skills, which may then complete that which could be the project’s founding team.

It is possible to access the network in one of two ways:

- **Directly**: by sending an e-mail to all the members of the network, indicating which professional, specialist or specific skills the project team requires;
- **Indirectly**: through the hosts, who can direct one towards a certain professional.

### **6.3 Scalability of the project and the governance model**

The constitution of a new Hub occurs after a meticulous investigation of the credentials presented. If such credentials prove to be adequate to the context in which the existing Hubs operate, and can therefore contribute to the growth of the network as much as the network can contribute to the development of its ideas, its constitution is authorized. There is an equal relationship among all Hubs.

At the moment of application, a business plan must be presented that demonstrates how the Hub will fund itself. Indeed, every Hub must be a self-sufficient business, and this is the philosophy that the Hubs try to spread: a more sustainable non-profit sector, able to provide services to the market place that in turn have strong potential for significant social impact.

---

<sup>4</sup> Web site: <http://www.artofhosting.org/home/>

The network is structured as an association of Hubs. Each Hub has one vote, therefore it is a democratic association. Then, there is a non-profit company that manages the services provided to the network itself and to which the newly created Hubs pay an entrance fee in order to become part of the network.

The entrance fee is required in order to pay for the entire international structure, including governance, support, backing, the organisation of international events (like, for example, the **Hub Gathering**, an assembly in which all the Hubs participate, deployed in a certain location which could be anywhere in the world), and the screening process for new start-ups. All these activities are covered by the cost of the membership fees, and costs vary in proportion to the size of the Hubs.

When the general structure described is implemented across a territory, several variations may arise:

- organisations that have given more importance to the characteristics of architectural spaces, and have transformed their hub into a space for events, training or gatherings; some may even have a bar on the premises and also function as a place to meet after work for all those who wish to engage in networking. This is a particularly strong aspect in the London Hub, for example;
- others have underlined the importance of the Hub as an incubator and a shared work space.

Everything depends very much on the context in which the Hub is created: it is necessary to evaluate the demand and therefore the relevant supply that the Hub can offer the territory in question. This is a **co-creative** process that starts with the feasibility evaluation of the Hub and which the founding group prepares and presents to the international commission as an application to become a member of the network.

As far as the concept of scalability is concerned, the networks do not scale arithmetically but geometrically. For example, when a Hub is no longer able to physically accommodate its members, it may be possible to consider opening a new centre, or to improve its qualitative aspects (strengthening bonds, organising events, etc...).

The extension of the network, i.e. diffusion on a territorial and national level of the Hubs, can in itself be identified with scalability: territorial hubs aligned from a philosophical and methodological point of view, that each have access to their own local networks, can open up a series of contacts and collaborations that would otherwise be impossible. Scalability can also be assessed from the very extension of the network.

#### **5.4 Project processes and incubation phases:**

The typical process of creating a project and the related network can be outlined as follows:

- some projects are generated within the Hub: this suggests that internal collaboration between the various members is working well and that people are generating new ideas and new projects;
- other projects arrive from outside the Hub: organisations or people present their project and ask for the collaboration and support of the Hub in order to develop it;
- there is then an unofficial training programme, which occurs when people come into contact with entities and they begin to benefit from what such entities can offer them. This is more difficult to regulate and it can lead to a change in the direction of the project. Indeed, The Hub system is fluid; it is not a classic rigid incubator, which would not be able to provide an adequate response to that which is a complex, fluid evolutionary process. Those who enter the Hub with a certain start-up can then, as new relationships begin to develop within the Hub, modify their original project.
- Forms of aggregation can occur among several projects which deal with and develop the same kind of interests.

Based on the quality of the project that is put forward and the team that proposes it, incubation periods usually last about a year and half to two years before the project reaches full maturity.

Those who take a project inside The Hub may be social entrepreneurs or a team of people (which is much more frequent in Italy) with a strong social idea, who have a start-up plan and who need a space where they can develop it. The service offered by the Milan Hub, for example, is linked to its space (co-working, desk hire, room hire for meetings and events). All this is not open to everyone, but only to those who pursue the social mission of the Hubs: to help generate new ideas and help set up new social enterprises.

Few Italian members have effectively made contact with foreign members belonging to other Hubs. The reasons for this may be:

- Little interest in working with people abroad;
- The network is based more on physical interaction between the members within a Hub's space rather than on online interaction. The information systems used are mailing lists and a profiling system covering all members belonging to the Hub.

The ideal solution would be to create a platform on which people can develop projects online in collaboration with other people, but in Italy there is a climate of distrust in working with people that one only knows via the internet.

The importance of the network is also apparent in a function which can be defined as “*inspirational*”: learning, through the network, of the existence of another project similar to the one being proposed but implemented in a different context, perhaps on the other side of the world. This can provide inspiration and a greater stimulus for the development of the original idea.

An innovative project incubated in a Hub and that has met with significant success was conceived at the London Hub, where a technological start-up was carried out to develop a system for monitoring consumption in the home, the fruit of collaboration between two members of the Hub. This project was so innovative that it was sold for 7 million dollars to an important electricity company which then distributed it to its clients.

## 5.5 Business Clinic

People can also undertake a more conventional path within the Hub, taking advantage of *business clinics*: one-hour sessions held by an individual, defined as a trainer, who has specific experience in a particular field and can assist those who are in doubt about something in that sector, offering free consultancy.

There are two main reasons that could lead a professional to provide free consultancy:

- Since there are values that bind people within this network, many are simply interested in doing something “good” for their own town or for the network. It could be defined as genuine voluntary work for the success of the start-ups being incubated in The Hub.
- Others also do so for personal interest: following a free consultation given during a business clinic, people can ask the trainer for subsequent professional consultancy, obviously for a fee.

The Hub is not for everyone. The Hub is a collaborative system and it supports an open innovative process. New ideas must also be open to the influence of a multitude of interlocutors who can enhance the innovation process, until what we define as “innovation” is ultimately reached. A diversity of perspectives enriches the initial idea.

## 5.6 Financing Tools

At the beginning, the Hub did not offer financing tools, unlike conventional incubators. Funding takes place in the network: there are people who introduce financiers within the system, who in turn

begin to communicate with people in order to understand whether there are interesting projects to which financial backing can be given.

There have been three more structured phenomena with direct relationships between financiers and Hub:

1. The San Francisco Hub was created by one of the founders of an important social investment fund based in California who saw the possibility to create a project incubator in which to invest with his own fund. The San Francisco Hub, therefore, has an informal social venture capital channel.
2. An example of venture philanthropy is provided by what happened at the Zurich Hub: a partnership with the Swiss WW, which created the Hub Zürich Fellowship Program. Here, projects in a start-up phase and showing innovation in the field of ecology were made to compete against each other: the project indicated as the winner by the jury received significant funding in order to sustain the start-up phase. Moreover, part of the funding was used to cover the costs the Hub had incurred during the project incubation period.
3. There is another partnership that is beginning in London, at the Westminster Hub, known as the Hub Venture Lab: it is a partnership with a social investment fund, Merism Capital, whose mission is to be *“an incubator for social entrepreneurs that delivers a wide range of programmes, support and workshops”*<sup>5</sup>.

The Italian context is not particularly open to collaborations, there is little understanding of the value of collaborating via the internet, and as such the Milan Hub does not have partnerships structured with investors, although it is not to be excluded that collaboration could arise in partnership with an investment fund.

## 6.7 Skills of the staff working in The Hub

There are two distinct moments in the life of a Hub:

- The moment of the start-up
- The moment of consolidation and when the project is fully operational

The start-up needs particular types of skills that may not necessarily be required when the Hub is fully operational. A start-up requires one or more social entrepreneurs who have the will and the commitment to begin a new project within the territory in question.

The role that in any case everyone has to occupy is that of *host*; and it is therefore necessary that everyone has skills in communication and facilitation, easily conveying the concept of the system network and being able to create the network itself. They do not necessarily have to know all the fields present in the operations of the Hub, it is enough for them to know one or two and that they are sensitive to issues of social innovation.

Hosts can work for Hubs a few days a week and can dedicate the rest of their time to developing their own project; fluidity and permeability between hosts and members is encouraged a great deal, because the Hub is a participative project. The well-being of the network is the responsibility of everyone.

In this case, Milan Hub is trying to strengthen links with the international network of Hubs, working in communication, trying to implement special projects with foreign partners.

There are also those working on the design of the space created inside the Hub, conceived according to a logic of transformation: the work space shared during the day can become a venue for events in the evening. This process of transforming premises which can be adapted according to specific needs is built on the basis of cooperation in which users give their contribution and input.

---

<sup>5</sup> Sito internet: <http://hubwestminster.net/hubventurelabs>

Furthermore, the Hubs are built with materials that respect the environment and at the same time represent a space that no one else has been able to imagine.

## Conclusion

Finally, the proposed case study point out four elements that are consistent with Hansen theory (Hansen et al., 2000):

- networking should be institutionalized, i.e. the incubator should adopt specific initiatives and mechanisms to foster networking and knowledge exchange among companies; this also allows scalability of networking benefits.
- networking should lead to preferential access and not to preferential treatment (i.e. ideas and projects must in any case be evaluated according to their objective quality and market viability).
- the network should have a focus, i.e. including firms that are consistent in terms of industry to which they belong, technology, common mission, or other criteria.
- the network incubator should only accept to support those companies which are motivated to enter the network and can derive real benefits from belonging to the network.

## References

- Antonelli C. la complessità economica di tecnologia ed innovazione in W. Brian Arthur La natura della tecnologia, Codice Edizioni, 2011
- Barabasi A.L, Link. La scienza delle reti, Einaudi, Torino, 2004
- Bagnasco A., F.Piselli, A. Pizzorno, A. Trigiani Il capitale sociale. Istruzioni per l'uso, Il Mulino, 2001
- Bull, M., "Challenging tensions: critical, theoretical and empirical perspectives on social enterprise", *International Journal of Entrepreneurial Behaviour & Research*, Vol. 14 No 5, pp.268 – 275. (2008)
- Castells M., La nascita della società in rete, Università Bocconi Editore, 2002
- Chell, E., "Social Enterprise and Entrepreneurship Towards a Convergent Theory of the Entrepreneurial Process", *International Small Business Journal*, Vol. 25, No 1, pp. 5-26. (2007)
- Cisco Systems, The Global networked business: a model for success, rapporto online, 20 luglio 1999
- Coleman J.S., Foundations of Social Theory, Cambridge (Mass.), Harvard University Press. 1990
- Dart, R., "The legitimacy of social enterprise", *Nonprofit Management & Leadership*, Vol. 14 No. 4, pp. 411-424. (2004)
- Dees, J. G., "The Meaning of 'Social Entrepreneurship.'" Working paper, Stanford University—Graduate School of Business, Stanford, California. (1998)
- Golinelli, G. M., "Viable System Approach (VSA). Governing Business Dynamics, Cedam, Padova, Italy. (2010)
- Grimaldi, R. and Grandi, A. "Business incubators and new venture creation: an assessment of incubating models", *Technovation*, Vol. 25, No. 2, pp. 111-121. (2005),



Harding, R., "Social Enterprise. The new Social Engine", *Business Strategy Review*, Winter, 39-43. (2004)

Hansen, M. T., Chesbrough, H. W., Nohria, N., and Sull, D. N., "Networked incubators: Hothouses of the new economy." *Harvard Business Review*, September/October, pp. 74-84. (2000)

ItalianLabourMinistry,

<http://www.cliclavoro.gov.it/informarmi/azienda/ImpresaSociale/Pagine/default.aspx>.

Lopes, AA.VV., *Reti di imprese. Scenari economici e giuridici*, Giapichelli, 2007

Mazzoni E., *La Social Network Analysis a supporto delle interazioni nelle comunità virtuali per la costruzione di conoscenza*, TD TECNOLOGIE DIDATTICHE, 2005, V. 35, n.2

Macke J. \*, Eliete Kunrath Dilly, *Social Capital Dimensions in Collaborative Networks: The Role Of Linking Social Capital*, *International Journal of Social Inquiry*, Volume 3, N. 2, 2010.

Sabatini F., *Il concetto di capitale sociale. Una rassegna della letteratura economica, sociologica e politologia*, Working Papers, No. 16 – Ottobre 2004

Segre S., *Significati dell'azione e teoria delle reti*, *Sociologia e ricerca sociale* n. 82, 2007

Seokwoo Song, Sridhar Nerur, And James T.C. Teng, *Understanding the Influence of Network Positions and Knowledge Processing Styles*, V.51, N.10, *Communications of the ACM*, Ottobre 2008

Suk, J.Y. and Moowen, R., "Resource mobilization and business incubation: the case of Korean incubators", *Development and Society*, Vol. 35, No. 1, pp. 29-46. (2006)

Rossi G., *Temi emergenti di sociologia della famiglia: la rilevanza teorico-empirica della prospettiva relazionale*, Vita e Pensiero Università, 2003

Wicham, P. A., *Strategic Entrepreneurship. A decision-making approach to new venture creation and management*, London Prentice Hall. (2001)

Willer D., *Network exchange theory*, Greenwood Publishing Group, 1999

2° Rapporto sui dati toscani dello studio HBSC 2005-2006

## **Schools self-assessment: a study on the levels of stakeholders' involvement in the process**

Patrícia Moura e Sá  
Assistant Professor  
GEMF - Faculty of Economics  
University of Coimbra, Portugal  
[pmourasa@fe.uc.pt](mailto:pmourasa@fe.uc.pt)

Isabel Maia  
MSc Student  
Faculty of Economics  
University of Coimbra, Portugal  
[isapimaia@gmail.com](mailto:isapimaia@gmail.com)

Self-assessment is essential to identify strengths and weaknesses and to guide improvement efforts. Schools are increasingly adopting models and tools to conduct self-assessment exercises. Yet, the real importance of such exercises depends on the practices used to involve the main stakeholders, the tools applied to collect appropriate feedback and, above all, on what happens after improvement actions are identified.

In the Portuguese education system, self-assessment has been made compulsory by the Law-Decree 31/2002. Nonetheless, few guidelines were set on how to implement the process and studies indicate that schools face considerable difficulties in using quality concepts and models.

Whereas most research projects discuss the applicability of different self-assessment models in the context of educational institutions, hardly any studies evaluate the self-assessment process in itself. By means of a large-scale survey (291 schools participated in the study), the current paper analyses the degree of stakeholders' involvement in different stages of the self-assessment process, as well as the mechanisms used to collect feedback and disseminate the results. Findings show the existence of a rather disparate scenario in terms of instruments used and stakeholders' participation at the various stages of the process. In any case, external assessment devices, implemented over the last years as means to monitor quality in the education system, seem to be contributing to widen and deepen self-assessment practices.

## 1. Introduction

According to the Law 31/2002, Portuguese public schools<sup>1</sup> are expected to self-assess their functioning as a basis to improve on a regular basis. Additionally, the Ministry of Education has implemented since 2007 an external assessment scheme<sup>2</sup>, which is expected to foster (and deepen) organisational self-assessment procedures in public schools. Such exercise has been systematically applied to all public institutions and in 2011 the “first round” will be completed meaning that all the existent public schools have been subjected to this external assessment. In a moment when more than 650 external assessment reports are available online to anyone interested through the agency in charge of the process (Inspeção Geral da Educação – IGE) in its webpage ([www.ige.min-edu.pt](http://www.ige.min-edu.pt)) and when many schools have had time to reflect upon the results achieved and mechanisms implemented, it seems rather appropriate to analyse at what extent the external assessment exercise has changed self-assessment practices and procedures.

The external assessment process implemented intends to (IGE website):

- Encourage a systematic questioning within schools about their own achievements and the quality of their practices;
- Relate the external evaluation's feedback with the schools' self-evaluation culture and procedures;
- Strengthen the schools' ability to develop their own autonomy;
- Concur to the regulation of the educational system functioning;
- Contribute to a better knowledge of the public education service, promoting a deeper social participation in the schools' daily life.

In what self-assessment in the Portuguese education system is concerned, a meaningful study was conducted by Alves and Correia (2008). The study was focused on investigating the motivations and barriers for adopting self-assessment, the areas of assessment, the size and composition of self-assessment teams and the type of reports produced. Yet, the data was collected in 2007, i.e. before the launch of the external assessment scheme, and does not include some relevant aspects such as the models used to conduct the exercise or the channels employed to spread the results. Our study, on the other hand, besides including these topics is also interested in analysing the effects of external assessment on self-assessment practices.

Moreover, the current study is original in explicitly taking the involvement of educational stakeholders as a starting point in evaluating self-assessment processes. This can be justified by the importance of adopting a stakeholders' approach in education (Cullen et al., 2003; Iacovidou et al., 2009).

Thus, this research aims to answer the following questions:

- What is the level of stakeholders' involvement in the process, namely in what concerns stakeholders' participation on self-assessment teams, data collection instruments and analysis of the results produced?
- Has external assessment led to the revision of self-assessment procedures and mechanisms?

It is widely accepted that educational institutions have many stakeholders (Iacovidou et al., 2009), including the government, students/pupils, teachers, employers and society at large. In our study, and because we are analysing non-higher education public institutions, we have

---

<sup>1</sup> The system applies to all public schools (kindergartens, elementary and secondary schools), with the exception of High and Further Education.

<sup>2</sup> The external assessment model was tested in 2006. The decision to adopt it was only taken afterwards and it was then that the Ministry of Education put IGE in charge of the process.

considered that teachers, students and other staff members are the most important internal stakeholders, whereas parents and municipalities are key external stakeholders.

The link between external and self-assessment is a key assumption in most education evaluating schemes. Yet, the idea stated in the Portuguese system that “by using the reports as food for thought and a tool for further discussion, it is our hope that this process of external evaluation encourages the schools' own process of self-evaluation” ([www.ige.min-edu.pt](http://www.ige.min-edu.pt)) seems to be somehow ambiguous. The law simply states that schools should adopt quality standards with national and international recognition. This unclarity associated with the lack of support in what education and training on quality tools and concepts is concerned has been consistently pointed out by schools administrators as a main difficulty in adopting organisational self-assessment. Moreover, a recent report of the IGE clearly indicates that there is a lack of sustainability in most self-assessment processes.

To address the research questions stated above, a questionnaire was designed and administered to all schools that have been evaluated by IGE up to December 2010.

The remaining of the paper is structured as follows: in the following section the major goals, steps and critical success factors of self-assessment are discussed based on a literature review. Next, the general picture of the external assessment scheme implemented by the Portuguese Ministry of Education is described. The methodological approach used to conduct the empirical work is then presented. Finally, the main results are discussed and some conclusions drawn.

## **2. Self-assessment in schools: goals, steps and critical success factors**

Historically, the creation of the International Association for Educational Assessment (IAEA) in the seventies was an important landmark in what schools assessment is concerned. Over the years the IAEA carried out various studies about the theory and practice of education assessment. In any case, it was only in the nineties that the goal of improving the performance of educational systems became a top concern in international terms. OCDE and IAEA studies, essentially based on quantitative and comparative methodologies, have informed national policies in various countries. Early on self-assessment has emerged as an important issue.

Self-assessment can be defined as “a comprehensive, systematic and regular review of the organisation's activities and results (...)” (EFQM, 2004, cited in Ritchie and Dale, 2000). As Tári (2008) points out, “self-assessment is a methodology for continuous improvement that an organisation can develop, either in a total quality management (TQM) context or as an independent strategy”. It implies the use of a model on which to base the evaluation and diagnosis (Ritchie and Dale, 2000).

The benefits of self-assessment are well-established in the empirical literature on the matter (e.g. Van der Vliet and Brown, 1999; Ritchie and Dale, 2000; Tári, 2008) and include: development of a common understanding of the organisation strengths and weaknesses, sound identification of improvement actions, increasing quality awareness among leaders and employees, among others.

When looking into the self-assessment process, the following stages can be identified (EFQM, 2003): developing management commitment; communicating self-assessment plans; planning self-assessment; establishing teams and providing training; conducting self-assessment; establishing action plans based on improvement priorities; implementing improvement actions; and review.

Organisational self-assessment has been regarded as a key element in quality assurance and accreditation schemes, especially in higher education (Pounder, 1999; Tári, 2006).

Often, self-assessment in education is based on models and frameworks developed by quality researchers and TQM organisations (Tári, 2006, 2008; Rosa et al., 2001). In this regard, the Malcolm Baldrige National Quality Award (MBNQA) and the Business Excellence Model developed by the European Foundation for Quality (EFQM/BEM) have raised considerable interest. These models propose the use of different approaches to self-assessment (such as questionnaire, workshop, pro-forma and award simulation in the EFQM/BEM case (EFQM, 2003)).

Regardless of the model used, self-assessment tends to look at the implementation of the school project, the way the activities are conducted, the performance of the school leadership bodies and the academic success of the students.

According to the literature (e.g. Van der Wiele and Brown, 1999; Ritchie and Dale, 2000; Samuelsson and Nilsson, 2002), several conditions need to be fulfilled if the expected benefits of self-assessment processes are to be obtained, including: management commitment, employee involvement, open communication, training and feedback on the process.

When looking at these CSF in schools, it is possible to suggest that self-assessment processes should essentially:

- Be based on an interdisciplinary team, with both the support of the school leadership and a considerable degree of autonomy to conduct the exercise;
- Involve the “education community” (i.e. the various stakeholders);
- Use preferentially deep-rooted models and instruments;
- Lead to a set of improvement plans and well-established priorities of action;
- Enhance accountability and foster school autonomy

### **3. External assessment scheme implemented in the Portuguese (non-higher) Educational Institutions**

The roots of assessment processes in the education system are difficult to establish. Yet, the Law n. 46/86 represents an important cornerstone in mentioning that “the system must be evaluated on a continual basis”. The need for assessment was further reinforced by the Law-Decree 43/89 that gives schools an enhanced degree of autonomy. According to this Law-Decree “deepening the autonomy depends on the size and ability of the school/school grouping and requires accountability based on procedures of self- and external assessment”.

In the last two decades the introduction of Quality and Assessment concerns is clearly visible in a set of initiatives, including (Coelho et al., 2008):

- The creation of the Observatory of Quality in Schools in the early nineties;
- The Project Quality XXI launched by the EU and coordinated in Portugal by the Institute for Educational Innovation;
- The AVES Programme directed towards the evaluation of secondary schools based on a model developed by the Spanish Institute IDEA, which started in 2000 in a voluntary basis;
- The Programme of Integrated Assessment of Schools carried out by the IGE in 1999;
- The Qualis Project that developed an adaptation of the Common Assessment Framework in 2006 (in place in the Autonomous Region of Azores)

In 2005 the Ministry of Education created a “working group for school evaluation” whose mission was to define models for self-evaluation and external evaluation of schools at all educational levels (pre-school, basic and secondary education). As a result, the model depicted in Figure 1 was developed and started to be applied in a pilot basis in 2006. The process was then generalized and the IGE was chosen as the entity to co-ordinate and implement the exercise. The scheduling of the schools to be evaluated was not random. Each year schools were invited to participate and were then selected based on the maturity of self-assessment procedures and on geographical coverage. In the last two years, schools that had still not been evaluated were selected to ensure full coverage of the educational system.

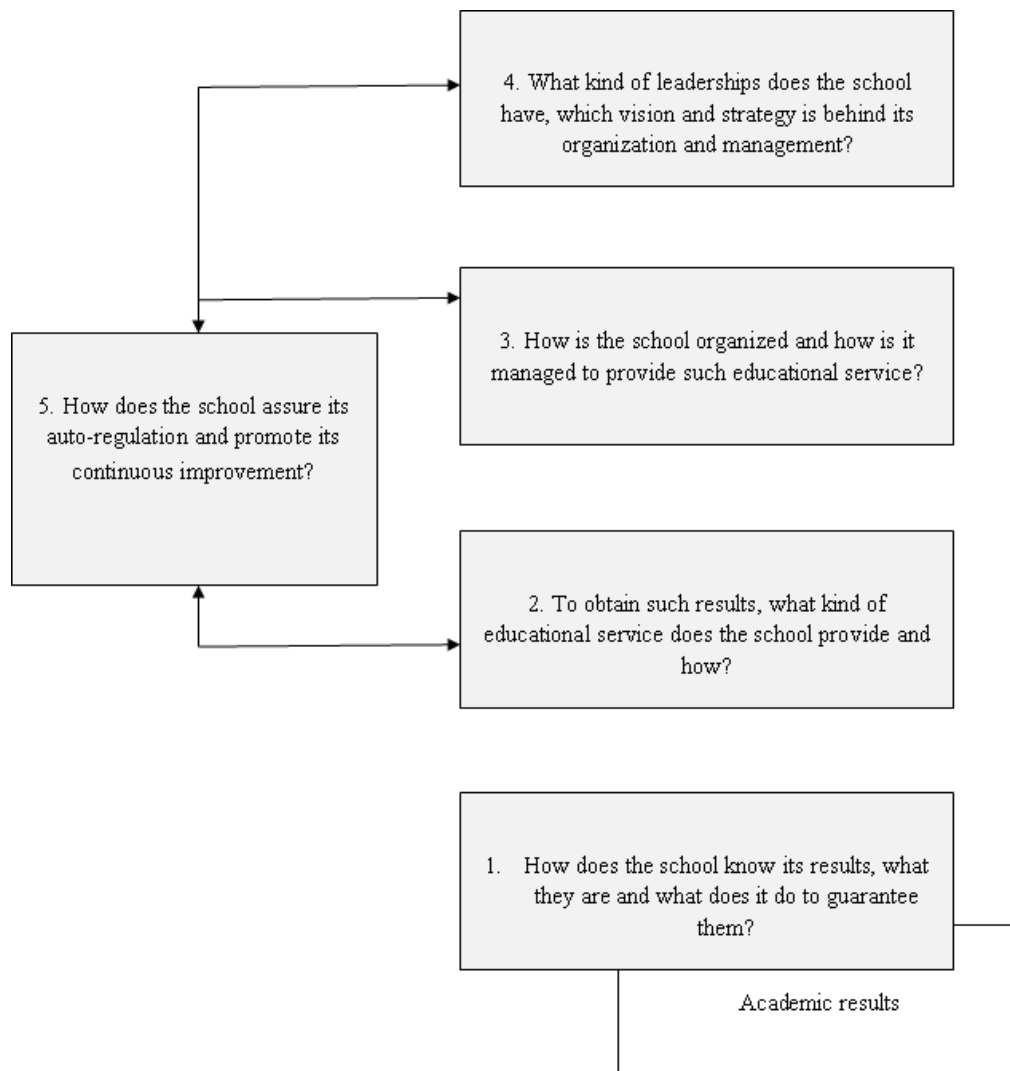


Figure 1. Framework for external assessment

The model involves five areas (i.e. criteria) – results, provision of the educational service, organization and management of the school, leadership, and auto-regulation capacity. Each area is deployed into a set of assessment sub-criteria (so-called factors).

The assessment makes mainly use of qualitative methods (documental analysis, panel interviews), even if the analysis of academic results has become over the years more and more statistical.

Teams of three elements (two IGE inspectors and an external expert) are created to assess each school. Site visits of two or three days (depending on the size of the institution) are carried out. At the end of the process, schools receive a report pointing out strengths, weaknesses, opportunities and threats. For each area of the model (i.e. criterion) they get an evaluation score, in a 4-points scale (from insufficient to very good).

To enhance the transparency of the process, both the evaluators report and the school eventual “contradictory” are published in the IGE website, being available to anyone who wants to consult them.

#### 4. Methodological approach

The current study is based on a questionnaire survey administered to the schools’ board of directors.

The survey was carried out in January 2011 by email. Only public schools were considered, since up to the moment private schools are still out of the external assessment scheme implemented by the Ministry of Education. Prior to this administration, a pilot test of the instrument was conducted in 4 institutions and some personal contacts were made with some schools directors who participated in a meeting organised by the Delegation of the Centre Region of the Ministry. A list of the institutional emails of the schools was carefully prepared and the questionnaire was sent to 744 public schools in January 2011. In order to get as many responses as possible, non-respondents were contacted by telephone in February. 291 questionnaires were successfully returned, which represents a response rate of around 40% (the exact number is difficult to indicate since recently some institutions have merged to form what is now called “mega-groups” (*mega-agrupamentos*)).

#### 5. Main findings

The overall response rate of the questionnaires was 40%, as stated above. Given the high participation rate for a self-administered questionnaire, it is reasonable to assume that the results are representative of the views of the directors of the Portuguese public schools.

As shown in Table 1, more than twenty of the schools that participated in the study assume that they are not implementing self-assessment. A proportion of 16.7% schools without self-assessment was found in a previous study (Alves and Correia, 2008), which indicates a progress that cannot be discarded. Although, as explained earlier, self-assessment is compulsory by law, the consequences to the schools and their administrators of not implementing it are not clear.

Yes – 268(92%)			No
EFQM model 20 (7.5%)	CAF 127 (47.4%)	IGE model 10 (3.7%)	23 (8%)

Table 1. Self-assessment overall picture

In what self-assessment models is concerned, it is noticeable the prevalence of the Common Assessment Framework (CAF). This fact might be explained by the language used in the CAF (easier to understand for public administrators than some other models) and its popularity among consultants in the Public Administration field. One must also keep in mind

that a significant number of schools do not indicate which model they use, what might be an indication of the unsystematic nature of many self-assessment exercises.

Direct experience of one of the authors with the external assessment process led to a preliminary view that the panorama regarding self-assessment practices is very diverse: some schools have been carrying out self-assessment exercises for a reasonable number of years and regard them as important aspects of their management processes, whereas others see self-assessment primarily as an external imposed requirement and a step in the preparation of the external assessment process. This view is in line with the findings of others researchers (e.g. Commons, 2003). In the Portuguese case, a previous study (Alves&Correia, 2008) had found that self-assessment is driven by three main reasons: the need (1) to learn on a continuous basis (mentioned by 63% of the study respondents), (2) to find new answers to societal problems (41%) and (3) to prepare external assessment (32%).

To overcome the lack of competencies in self-assessment 30% of the respondents use partnerships to provide some kind of assistance (against 19% in Alves and Correia study). In around half of such cases, schools involve a critical friend in the process, while only 20% indicate they use partnerships in education and training initiatives aimed at developing new competencies.

Having a multidisciplinary (and diversified) team, where the various organizational stakeholders are represented, seems to be important to ensure a broader (and more complete) view of the organization.

	NO	Yes - Number of elements			“Typical team”
		1	2	3 or more	
School directors	110 (42.6%)	<b>117</b> <b>(45.4%)</b>	20 (7.7%)	11 (4.3%)	1
Teachers	7 (2.7%)	2 (0.8%)	13 (5.0%)	<b>236</b> <b>(91.5%)</b>	4
Other staff	96 (37.2%)	<b>98</b> <b>(38.0%)</b>	57 (22.0%)	7 (2.8%)	1
Parents	92 (35.7%)	<b>136</b> <b>(56.7%)</b>	25 (9.7%)	5 (1.9%)	1
Students/Pupils	<b>178</b> <b>(69.0%)</b>	57 (22.1%)	13 (5.0%)	10 (3.9%)	0
External elements	<b>211</b> <b>(81.8%)</b>	34 (13.2%)	8 (3.1%)	5 (1.9%)	0

Table 2. Composition of self-assessment teams

As revealed in Table 2, in the majority of the schools, self-assessment teams tend to involve teachers and parents (in this latter case usually through the participation of representatives of parents’ associations, which in this sample are part of the teams in 44% of the cases). Parents are now much more involved in the teams than in Alves and Correia study (27%). A member of the school administration is in the self-assessment team in almost half of the schools. The presence of school directors in the teams can be interpreted in two (contradictory) ways. If, on the one hand, the involvement of administrators can be an important indicator of commitment to the process, on the other hand it can easily become an interference in the exercise, diminishing the autonomy and freedom of the team. The degree of participation of students and pupils in the teams is still relatively low (in only 31% of the schools they are represented in the teams), even if this number is considerably higher than that of Alves and Correia research (13%) that took place three years earlier than ours. One must also keep in mind



that some of the schools that participate in the study do not even offer secondary education and consequently work with very young students/pupils, who might lack the knowledge to be part of the teams. The presence of external elements (such as representatives of the municipalities or of other partnerships) is rare (it happens in less than 20% of the cases). Overall, it is possible to affirm that the “typical” self-assessment team has a member of the administration, four teachers, one member of the staff (administrative or operational assistant) and one representative of the parents.

The wideness of the self-assessment exercise can also be assessed by the number of instruments used and the extent to which schools collect data and feedback from different stakeholders.

By far the most widely implemented data collection instrument is the questionnaire (see figure 2), being used by more than 90% of the schools. Meetings, especially through the analysis of the minutes, are also rather common (60%). Almost one-hundred schools mentioned that they use interviews with members of the school community to collect data. Documental/archival analysis and statistical data are other information sources that schools use in their self-assessment exercises. The use of statistical data is particularly relevant to assess the academic results of the students.

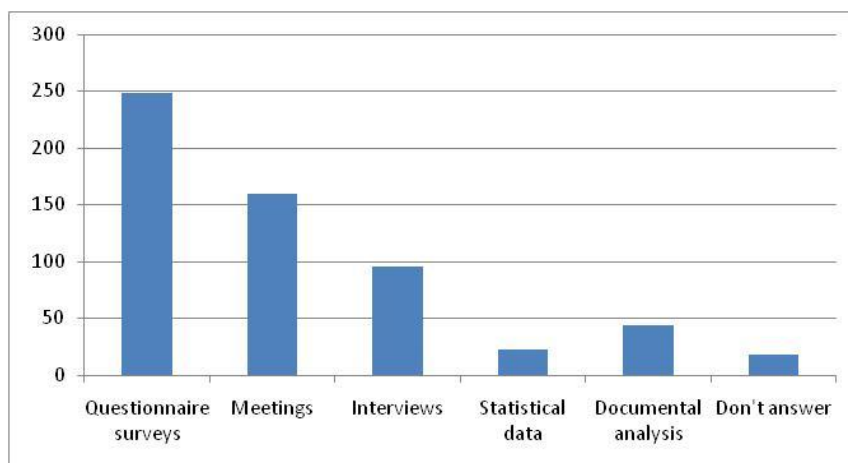


Figure 2. Information sources

As Table 3 indicates, almost all schools that implement self-assessment collect data/feedback from the various stakeholders, particularly those more closely involved in the schools daily life (teachers, students, other staff members and parents). Alves and Correia study had found a similar figure concerning teachers’ participation, but a considerably lower level for the other groups. This fact suggests that schools are becoming more aware of the need to listen to different perspectives if a correct picture of the functioning of the school is to emerge. The concern to listen to external members is interesting in a moment when schools are asked to diversify the courses they offer and to facilitate the integration of students in work placements, especially through internship programmes.

	Frequency
Teachers	259 (96.6%)
Other staff members	251 (93.6%)
Parents	249 (92.9%)
Students	251 (93.6%)
Municipality/Local Government	50 (18.6%)
Other local community members	61 (22.8%)

Table 3. Groups listened to within the self-assessment process

Another critical factor for the success of the self-assessment exercise is the degree to which the results are shared among the school community. In this regard, a multiplicity of channels can be used to disclose the information and publicize the results of the assessment process.

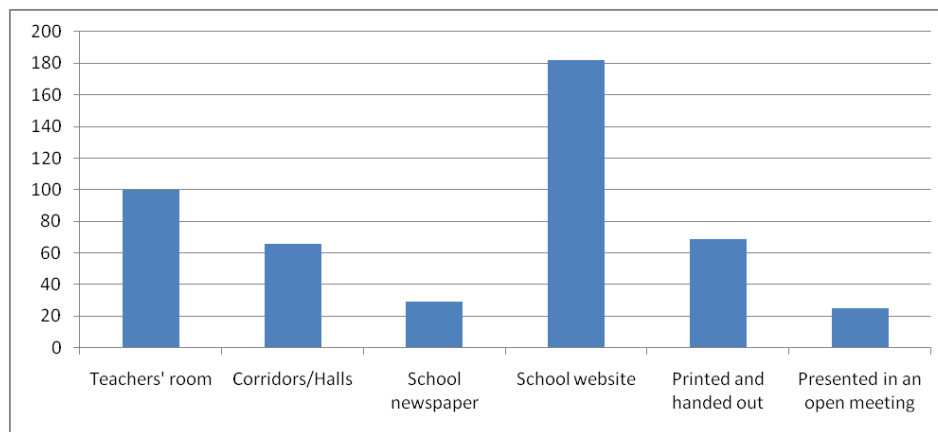


Figure 3. Channels used to publicize the results

Figure 3 shows that schools choose their internet web pages as the main channel to publicize the self-assessment report (more than two-thirds of the respondents do it). Some circulation areas are also commonly used with the same purpose. In some cases, schools print and hand-out the report (or a summary) as well, especially to parents' associations (20%). It is worthwhile to notice that only 10% of the schools organize an open meeting with the local community and parents to share this knowledge.

An additional evidence of the level of stakeholders' involvement concerns their participation in the analysis of the self-assessment results/report. As depicted in Figure 4, school administrators are almost always involved in this analysis, what must be regarded as a good indication since improvement actions need to be aligned with the strategic goals/vision of the school and resources must be allocated to such actions. Also, teachers, especially through pedagogical councils, discuss the results of the process in 85% of the schools. The level of involvement is significantly lower in what parents and students/pupils are concerned (49% and 19%, respectively). In this case, our results indicate a degree of participation clearly below that of Alves and Correia study, who had found that parents were involved in the analysis of the self-assessment report in 79% of the schools, whereas students participated in 44% of the

institutions. When reading these numbers in the overall context of the studies carried out, our findings seem in this regard more credible. More surprising is the low level of involvement of school councils (19%), which are the top level body of the system (being responsible for the annual approval of the budget and activity plan) and the structure where external elements necessarily participate in the definition of the overall strategy for the school (the figures in Alves and Correia research were once again more optimistic (83%)). The potential lack of reflection around the self-assessment report in school councils is undoubtedly a cause for concern.

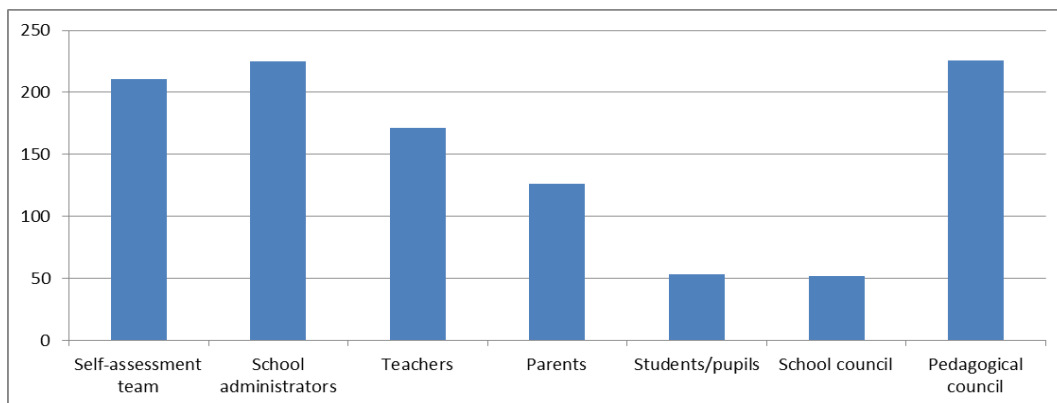


Figure 4. Groups involved in the analysis of the self-assessment results

Overall this scenario suggests that schools are not making a strategic and proactive effort to foster the discussion among the stakeholders on the conclusions of the self-assessment report. The lack of involvement at this stage may jeopardize the design and implementation of improvement plans that call for their active participation.

Finally, we have asked whether or not some changes were introduced in the self-assessment process after the external evaluation process carried out by IGE (see Figure5). As one can observe, 143 schools (i.e. 53% of the respondents) state that external assessment had an impact on self-assessment practices.

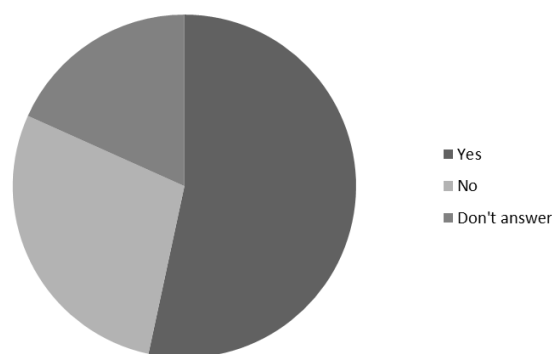


Figure 5. Impact of external assessment on self-assessment

A closer look into such changes (which were indicated through an open question) reveals that a significant number of these modifications concern the composition of the self-assessment team and the involvement of new groups in the data collection stage of the self-assessment process. Indeed, more than twenty schools affirm that they have enlarged the team through the participation of new elements, with a particular emphasis on parents and other staff members. Some schools have also indicated that they have involved a critical friend in the process to

enhance the level of expertise of the team. Moreover, several schools explicitly stated that they have started to collect data/feedback from external constituencies, especially city councils and partners. Table 4 gives some examples of this kind of changes.

- |   |
|---|
| <ul style="list-style-type: none"><li>• “More involvement of the local community in the process”</li><li>• “Survey questionnaires administered to parents, students and other staff members”</li><li>• “Actions to increase community awareness of the importance of self-assessment”</li><li>• “The self-assessment team was enlarged to include members of the school community that were not represented”</li><li>• “The self-assessment team was enriched with the participation of a representative of the association of parents and a representative of the operational staff”</li></ul> |
|---|

Table 4. Examples of changes on stakeholders' involvement

All in all, our findings suggest that schools are implementing some strategies to increase the level of stakeholders' involvement and this is being reflected on the constitution of self-assessment teams and on the nature of the instruments implemented (surveys, meetings, internet page).

## Conclusion

As in any other context, self-assessment in schools needs to be a systematic process, embedded in the organisational culture, fostering systemic thinking and continuous improvement. Additionally, at different stages, the process calls for an active participation of educational stakeholders.

The empirical study conducted shows that Portuguese schools seem to be making an effort in opening-up their self-assessment teams so that the needs and perspectives of a multiplicity of stakeholders are taken into account when characterising the school and identifying areas of strength and weaknesses. Still, on a widely basis, most educational players are only involved at the data collection stage, when they are asked to fill a questionnaire. Their involvement at later stages, when the results of the self-assessment need to be discussed and improvement actions designed, is significantly lower. Also the level of participation of the various stakeholders varies considerably.

Moreover, many schools still do not follow any model, which might indicate that the process is often immature and/or unsystematic. Some evidence points to the existence of a problem related to the lack of expertise and competencies regarding quality tools and frameworks. To overcome this problem, a significant number of schools are using the so-called “critical friends”. Even if the idea by itself is good, there is a risk of using this strategy to transfer the responsibilities for the process from the school members to a partner or a consulting firm, what is clearly counterproductive given self-assessment goals.

Finally, external assessment seems to be having an impact on self-assessment practices, with the adoption of strategies and mechanisms that encourage greater levels of stakeholders' participation.

It is important to notice that although the close link between external and internal assessment is clearly assumed in many education assessment schemes (including the Portuguese), very few guidelines were published by the Government on how to conduct self-assessment exercises (model to be used, who to involve, what kind of report to produce). Theoretically, external assessment more than making a diagnostic of the school

functioning is essential to validate the institution own self-assessment arrangements. To make external assessment more effective and efficient it is however necessary to look at the schools self-assessment reports as meaningful starting points. If this is to happen, some guidelines need probably to be given.

### References:

- Alves, M.; Correia, S (2008), “A auto-avaliação de escola: um estudo exploratório sobre os dispositivos de auto-avaliação das escolas públicas em Portugal”, *Olhar de Professor*, Vol. 11, No.2, pp. 355-382.
- Coelho, I. Sarrico, C.; Rosa, M. (2008), “Avaliação de escolas em Portugal: que futuro?”, *Revista Portuguesa e Brasileira de Gestão*, Abr/Jun, pp. 57-67.
- Cullen, J.; Joyce, J.; Hassal, T.; Broadbent, M. (2003), “Quality in higher education: from monitoring to management”, *Quality Assurance in Education*, Vol. 11, No.1, pp. 5-14.
- EFQM (2003), *Assessing Excellence: A Practical Guide for Self-Assessment*, EFQM, Brussels.
- Iacovidou, M.; Gibbs, P.; Zopiatis, A. (2009), “An exploratory use of the stakeholder approach to defining and measuring quality: the case of a Cypriot higher education institution”, *Quality in Higher Education*, Vol. 15, No. 2, pp. 147-165.
- Pownder, J. (1999), “Institutional performance in higher education: is quality a relevant concept?”, *Quality Assurance in Education*, Vol. 7, No. 3, pp. 156-165.
- Ritchie, L.; Dale, B. G. (2000), “Self-assessment using the business excellence model: A study of practice and process”, *International Journal of Production Economics*, Vol. 68, No. 3, pp. 241-254.
- Rosa, M.; Saraiva, P.; Diz, H. (2001), “The development of an excellence model for Portuguese higher education institutions”, *Total Quality Management*, Vol.12, pp. 1010-1017.
- Samuelsson, P.; Nilsson, L. (2002), “Self-assessment practices in large organizations: Experiences from using the ETQM excellence model”, *International Journal of Quality and Reliability Management*, Vol. 18, No. 1, pp. 10-23.
- Tári, J. J. (2006), “An EFQM model self-assessment exercise at a Spanish university”, *Journal of Educational Administration*, Vol. 44, No. 2, pp. 170-188.
- Tári, J. J. (2008), “Self-assessment exercises: A comparison between a private sector organisation and higher education institutions”, *International Journal of Production Economics*, No. 114, pp. 105-118.
- Van der Wiele, T.; Brown, A. (1999), “Self-assessment practices in Europe and Australia”, *International Journal of Quality & Reliability Management*, Vol. 16, No. 3, pp. 238-251.

**14<sup>th</sup> Toulon-Verona Conference**

**Alicante, Spain**

**September 2011**

**Dr. David Moyes**

Lecturer in Marketing and Enterprise

University of the West of Scotland

Email: [david.moyes@uws.ac.uk](mailto:david.moyes@uws.ac.uk)

Telephone: 0044 1387 702070

Fax: 0044 1387 70277

“The development of customer relationship capital by small rural service firms”

**Abstract**

Small firms rely on repeat business for the bulk of their income (Spence and Schmidpeter, 2003) and on customer referrals for the majority of their new customer acquisition (Chaston and Mangles, 2002). Loyalty and word-of-mouth are considered to derive from satisfaction with service quality (Heskett *et al.*, 1997). An understanding of customer wants is considered to be essential for the effective development of service quality (McNaughton *et al.*, 2002). However, small firms do not carry out systematic market research, privileging action over planning.

This study examines the approaches to service quality of 12 small rural firms in the southwest of Scotland to understand how the customer loyalty on which they depend is encouraged. It finds that firms prioritise goods over service, and transactions over relationships. However, they also demonstrate ethical, customer-focused approaches which are valued by customers. Satisfied customers are more likely to return and to give positive word-of-mouth and this relationship is cumulative, building over a series of successful transactions into relationship quality. The term Customer Relationship Capital (CRC) is adopted to describe the aggregate relationship quality which is developed with customers. CRC is an asset for firms creating a source of competitive advantage and protecting them from occasional lapses in service standards.

## **Introduction**

The quality of a service interaction is dependent upon the ability of the business to deliver what the customer expects to receive. This requires, on the part of the firm, market knowledge to understand the wants of the customer (Parr and Lashua, 2004), an orientation which prioritises customer satisfaction (Levitt, 1960) and the appropriate competencies to deliver customer-related value. The firm's ability to deliver service quality is also limited by the resources available to it. Customers judge their service experiences against what they expect to receive (Gronroos 1984). Their likelihood of returning or of giving WOM recommendations as a result of their experience is dependent upon several factors: their propensity to give WOM (East *et al.*, 2005), their satisfaction with the service they have received (Heskett, 2002) and the impact of any interventions by the business to encourage loyalty or WOM (Stokes *et al.*, 2002). WOM, if given at all, may be positive or negative, and the WOM once given, may be given to few or many receivers (East *et al.*, 2005).

Little is known about how rural small-to-medium sized enterprise (SMEs) develop their service propositions, how these are judged by rural service customers and how these judgments influence future customer behaviour. A misreading by SMEs of what customers require may lead to a dissipation of scarce resources on service interventions which are not valued by customers or to a neglect of dimensions which are important to them. This research addresses these gaps in knowledge and develops our understanding of rural small business service quality and rural customer behaviour by exploring small business service quality.

Specifically this research examines:

- I. How rural service SMEs develop their service quality priorities
- II. How rural service customers evaluate their service experiences
- III. The relationships between rural SMEs and their customers

The paper is presented in several sections. Firstly the rural context is examined to illustrate the challenges and the opportunities for SMEs in the rural milieu. Next, the literature review draws a distinction between relationship marketing and relationship quality to present a case that relationship quality better describes the connections between rural SMEs and their customers. This is followed by a methodology section which details the ways in which the perspectives of business owners and customers were accessed. Results are presented and their significance is then examined in the discussion and conclusions section. Finally recommendations for SMEs are offered.

## **The rural context**

The Scottish Government (2008) defines rural Scotland as settlements with a population of less than 3,000. 'Accessible rural' includes those within a 30 minute drive of a settlement of more than 10,000 people. 'Remote rural' includes those with a greater than 30 minute drive to a settlement of more than 10,000 people.

However, there is no universally accepted definition of 'rural' and definitions produced for statutory purposes do not fully describe the variety and heterogeneity of rural contexts. Although there are several statutory definitions available, they are criticised for being one-dimensional (Dinis, 2006).

The social diversities and economic complexities of rural areas make generalisations problematic. Non-urban Scotland cannot be treated as undifferentiated space (Burnett and Danson, 2004). This position is consistent with the European Union (1999) which described rural as:

*'Complex, economic, natural and cultural locations, which cannot be characterised by one-dimensional criteria such as population density, agriculture or natural resources.'* (European Commission, 1999, p.23)

The region presents an appropriate location for a study of rural SME service quality. Policy priorities of the South of Scotland Competitive Strategy (South of Scotland Alliance, 2006) to address the challenges of the region include realising the potential of indigenous businesses, which are predominantly SMEs, and developing the region's tourism provision. SMEs rely on customer loyalty for income and word-of-mouth for gaining new customers. These are loyalty behaviours which arise from offering high levels of service quality (Heskett *et al.*, 1977). Therefore, SME service quality is an important issue in this region.

There is an established literature exploring the adverse affects of a rural location on SME sustainability and growth (Roberts, 2002; Smallbone *et al.*, 2002). Cosh and Hughes (2000) reveal a deterioration in performance of rural SMEs relative to urban ones in the UK. Among the reasons cited for rural firms having limited opportunities for growth are their dependence on local markets because of their location specific delivery mechanisms (Mochrie *et al.*, 2006), poor access to extra-regional markets and low population density and consequent small market size, which rural businesses are more likely to saturate than their urban counterparts (North and Smallbone, 2000).

Smallbone *et al.* (2002) note that in rural areas businesses tend to be small and there is a high proportion of micro-businesses and one-person businesses. Anderson *et al.* (2009) argue that the 'thinness' of the rural environment means that the loss or gain of a single job can have a disproportionate effect on that environment. Although rural businesses are small, their collective impact on the rural economy is significant relative to their size and the health and well-being of rural small businesses is intertwined with that of their host regions.

Sustainable development of rural areas is now accepted to lie in the development of their indigenous potential. This style of endogenous development considers that the key issue in rural development is no longer the region's capacity to attract enterprises from outside the region but the exploitation of its local resources to generate sustainable transformation (Dinis, 2006). Evidence of this philosophy can be observed in the South of Scotland Competitive Strategy (South of Scotland Alliance, 2006) whose priorities include the realisation of the full potential of its indigenous business sectors.

The outlook for rural businesses is not entirely bleak. Anderson and McAuley (1999) note the opportunities to exploit the distinctive characteristics and 'otherness' of the rural landscape, and the localness of rural products has generated consumer interest (Morris and Buller, 2003). Therefore, growth opportunities do exist for businesses to exploit an identifiable sense of the rural. Hurst *et al.* (2009) note that in the wake of the decline of rural manufacturing and agriculture, tourism has emerged as a popular rural development strategy. Tourism is compatible with rural 'otherness' and in particular with the natural beauty and advantages of the southwest of Scotland.

## **Literature**

The critical role of the customer in modern marketing is reflected in the Chartered Institute of Marketing's (CIM) definition of marketing:



*'Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitably.'* (Brassington and Pettitt, 2003, p.4).

The concept of the marketing orientation has evolved from being simply customer led to a recognition that the firm exists within a cluster of networks and relationships, all of which have an impact on the firm's ability to deliver customer satisfaction and thus long-term profitability. This relationship-based approach is defined by Sheth and Parvatiyer (1995, p.259) as 'attempts to involve and integrate customers, suppliers and other infra-structural partners into a firm's developmental and marketing activities'. Defined in this way, relationship-based strategies are considered to present opportunities for small businesses which, by the nature of their size and environment, have an operational proximity to their stakeholders (Anderson and McAuley, 1999).

RM theory suggests that relational bonds (Gronroos, 1997) can lock profitable customers into long-term relationships with businesses. Gronroos (1997) further argues that RM recognises the growing economic importance of retaining the customer. Thus, RM reinforces the long-term revenue stream view of the value of the customer. RM is also a response to criticisms that traditional marketing approaches could not discriminate between customers to customise service offerings and to identify the most profitable customers (Day *et al.*, 1998).

Webster (1992), in his commentary on the changing nature of marketing, recognised that viewing marketing as a profit-maximising tool focused on market transactions 'seemed increasingly out of touch with an emphasis on long-term customer relationships' (Webster, 1992, p.10). Under an RM approach, 'customers become partners and the firm makes long-term commitments to maintaining those relationships with quality, service and innovation' (Anderson and Nerus, 1990, p.44). Rao and Perry (2002), in their review of RM's development, indicate that social and structural bonds are key elements of relationships. RM is more than a desirable by-product of a customer focus; Harker (1999), after reviewing the many definitions of RM and finding them unsatisfactorily vague, argues that RM is the result of proactively creating exchanges with selected customers over time.

However RM has its critics. Egan (2001) notes that RM theory has very little in the way of empirical research over time to support it. O'Malley and Tynan (2000) also express concern that although RM has much intuitive appeal, the basic assumptions underpinning its widespread application to consumer markets have not been tested or challenged meaningfully. Palmer *et al.* (2005) agree that there is a shortage of research into the current state of development of RM with very few empirical and case studies of RM in practice. Few of the studies which conclude that RM is appropriate for SMEs provide any details of how SMEs incorporate RM into their marketing activities.

The usefulness of RM is questionable for smaller SMEs which do not have the expertise, or the market and customer intelligence (Chaston and Mangles, 2002) to successfully design and implement an RM strategy. Although relationship building is found in entrepreneurship and small business literature, it tends to be within socially bounded relationships (Zontanos and Anderson, 2004) where firms network with stakeholders and with customers rather than develop relationship strategies. Wilson and Stokes (2004) describe transactions in SMEs taking place within a rich social context with an intuitive rather than a planned use of RM to add customer value through networking to develop trusting relationships. Since the tools and techniques of RM are likely to be beyond the skills and resources of the small SMEs which are typically found in rural areas relationship quality and not relationship marketing may provide a framework for understanding the relationships which rural businesses have with their customers.

Hennig-Thurau *et al.* (2002) argue that loyalty and WOM are two key service relationship outcomes. In their paper, the authors attempt to align the research streams of relational benefits, which assumes that for the parties to continue in a relationship that they must both gain value from it, and relationship quality, which focuses on the overall nature of the relationships between companies and consumers. Relationship quality focuses on developing interpersonal relationships and loyalty with customers through enhancing the transactional experience rather than attempting to identify and lock in profitable customers through the employment of RM tools. They found that the confidence and social benefits which accrue to the customer through a relationship with the supplier have a positive influence on WOM and customer loyalty. They also found that special treatment benefits such as discounts for regular customers do not have a significant direct influence on loyalty

Macintosh (2007) tested the links between customer orientation, staff expertise and relationship quality. Relationship quality consists of two dimensions, trust and satisfaction. Macintosh (2007) found positive links between customer orientation and expertise on the part of the business, and customers' perceptions of service quality. Interpersonal relationships with service staff enhanced customer satisfaction and were found to be positively related to loyalty and WOM. Thus the link between customer orientation and relationship quality is verified by Macintosh (2007), but only where relationships at the personal level are satisfactory. High levels of relationship quality were found to be a minimum condition for positive word-of-mouth. Similarly, in their study of service quality effects in the health care sector, Chaniotakis and Lymperopoulos (2009) found that the main service quality dimension to affect word-of-mouth was staff empathy. Compatible with Macintosh's (2007) findings, they demonstrate that customer orientation expressed through staff empathy leads to satisfaction and desirable loyalty behaviours. The development of a relationship with the firm through the employment of the tools of RM may not be a necessary antecedent of relationship quality.

Although SMEs may lack the resources (Hill, 2001) necessary for the formal planning which underpins a full relationship marketing strategy, their proximity to the customer may provide the appropriate circumstances for the development of trust, which appears to be a necessary antecedent of relational commitment and loyalty. It is the transaction which forms the cornerstone of relationship quality. A focus on transactions, which many SMEs display (Hill, 2001), is compatible with relationship building when seen through the lens of relationship quality rather than that of relationship marketing. It is interaction quality rather than relational strategies which are more likely to create trust. In this case, SMEs, as acknowledged by Day *et al.* (1998) and Anderson and McAuley (1999), have particular advantages through their proximity to customers. This means that small firm owner-managers, especially those in rural environments, are likely to know their customers and their customers to know them. This customer proximity should also allow the feedback necessary to inform agile responses to changes in customer wants.

## **Method**

There is an absence of a fully developed theoretical framework in the area of small rural firm service quality. Therefore, an exploratory enquiry is required in order to develop a conceptual understanding of the research domain. The objective is to understand, not to measure; to develop insights, not to test theory.

This research adopts a multi-method qualitative approach, examining the issue of rural service quality from two perspectives; those of small firm owner-managers and those of rural consumers. Thus, it is possible to develop a holistic understanding of rural service quality delivery and its impact on rural consumers.

Twelve rural SME owner-managers were interviewed for the study. These interviews were transcribed and then analysed using the QSR NVivo analysis software. The semi-structured approach was adopted as it overcomes the limitations of the structured interview to probe and develop themes (Bryman and Bell, 2003) whilst providing a template for discussion and analysis (Easterby-Smith *et al.*, 2002). For the process of conclusion drawing, codes were defined and developed throughout the analysis process. Codes were added, removed and merged as necessary as the data grew, which allowed patterns in the data to develop.

The consumer aspect of the research required the use of an instrument which allowed the interrogation of a reasonably large number of respondents but which enabled greater freedom of expression than a standard questionnaire. The critical incident technique (Flanagan 1954), which has been employed in previous research in this field (see for example Gremler, 2004), satisfied the criteria for this research.

The CIT was developed by Flanagan (1954) to collect observations of behaviour in ways which facilitate their usefulness in solving practical problems and developing broad psychological principles (Easterby-Smith *et al.*, 2002). Respondents are asked to describe incidents in detail, giving their version of the antecedents of each incident and its impact upon them. The value of the technique as a qualitative tool is that these accounts are given in the respondents' own words and the respondents choose what is important to recount and what is not. Thus the respondent's and not the researcher's perspective is examined (Gabbott and Hogg, 1996). The instrument developed for this study asked consumers to record details of one satisfactory and one unsatisfactory incident. The analysis of the responses allowed the development of classifications of antecedents of customer satisfaction.

120 critical incidents from 60 completed questionnaires were received from rural consumers. Two forms were incorrectly completed and as a result the four incidents they contained were unusable. 116 incidents is a sufficient number from which to draw high quality, exploratory inferences. Gremler (2004) recommends a minimum number of anecdotes for use in CIT studies of 100.

The work of Bitner *et al.* (1990) was used as a framework for the classification of the critical incidents collected. The process recommended by Bitner *et al.* (1990) is:

- 1) Repeated readings of the incidents;
- 2) Sorting the incidents into groups and categories according to similarities in the reported incidents;
- 3) Identifying and articulating the exact nature of the similarity;
- 4) Using similarities as a basis for category labelling; and
- 5) Re-sorting until all the incidents in a category are more similar to each other than to those in any other category.

This research is context specific. It examines behaviours of firms and customers in southwest Scotland, and it does so within the qualitative paradigm. The insights generated are, therefore, appropriate only to that particular context and cannot be generalised further.

## Data Sources and Sample Recruitment

### *SME owner-managers*

A broad spectrum of businesses providing consumer services in Dumfries and Galloway was required. Local business leaders were accessed to refer businesses which provided consumer services and were owner-managed by a clearly defined individual.

Firm	Nature of Business	Years trading	No. of employees
01	Photographer	12	2
02	Travel Agent	20	2
03	Undertaker	80	31
04	Petrol station	12	21
05	Fishery	12	3
06	Falconry	5	2
07	Hotel	6	24
08	Riding school	13	1
09	Aircraft museum	33	12
10	Gastro-pub	5	12
11	Butcher	60	11
12	Café	5	2

**Table 1. Firms accessed for the study**

### *Rural service customers*

The data were collected from; students and staff of a local college, staff of a local high school, employees of an information management company, and members of a local charitable organisation. In this way both males and females and a broad socio-economic range were accessed.

## Findings

### *The nature of the businesses*

This theme explores how the SME owner-managers view themselves within the market, exploring their perceptions of their products or services and how they relate to their competitors and to their customers.

All the business owners initially described themselves narrowly as, for example a wedding photographer, a butcher or an undertaker. However, when describing their activities and priorities most perceived their roles in terms of the services which they provide. In most cases, these extended beyond the simple business description. This indicated that for most business owners there was a clear understanding of the service they were attempting to deliver. This view was not necessarily based on customer research and there was some evidence that the service, as the owner perceived it, was not valued by customers

### *Business ethos*

The ethos and priorities of the owner-managers were very clearly reflected in the goals and activities of some of the firms. In some cases, it was clear that the operationalisation of the owner's priorities did not reflect the norms of the sector and, in certain cases, were also incompatible with profit maximisation. In some cases, the ethical approach of the business was reflected in a responsible, almost parental approach to customers.

These ethical orientations are reflections of the owner-managers' views and not their interpretations of the norms of their markets. For the most part, they cannot be classified as intuitive approaches to marketing or PR because, in many cases, the customers are unaware of them.

### *Approaches to service quality*

All the respondents have a clear quality focus but their quality priorities are not supported by customer research and there is a lack of knowledge about customer wants and behaviours. A number of decisions are based on untested assumptions. This is demonstrated where owner-managers consider that they have a marketable USP but feel that they are undercut by lifestyle or part-time businesses who do not offer the equivalent quality of service. There are significant implications from this: some of the owner-managers do not recognise threats and competitors; others may be investing resources in areas not valued by customers.

For many of these businesses, service quality is not accidental. It has been carefully considered and a service proposition has been operationalised and offered to customers based upon the owner-managers' perceptions of what customers want.

All the owner-managers considered the total service experience to be important. Examples of the 'must haves' of the service experience included meeting and greeting customers as soon as they arrive, creating a safe and reliable social climate and offering as satisfactory an experience as possible. Trust was identified as a key element of the service proposition. Both the funeral director and the wedding photographer specifically cited the need to create trust. Others referred to trust more obliquely. The owner-managers acknowledged empathy as a key ingredient of successful interactions with customers, responses ranging from 'acting sincerely' to 'having a wee blether'.

When asked about negative aspects of service delivery which must be avoided, the respondents again focused on technical quality, for example, poor quality food. They also recognised the importance of the role of staff within service delivery. Staffing issues are discussed later.

One of the owner-managers cited unacceptable customer behaviour in this discussion, recognising that customers are an ingredient to be managed within the service mix. However, the reasons for managing customers were more concerned with enforcing the rules of the facility than with the possible impact on other customers' enjoyment.

### *Customers*

Most of the respondents had a clear understanding of the underlying reasons why customers buy their product or service.

Most of the owner-managers do not carry out market segmentation but all were sensitive and responsive to the differing requirements of their various customer types. The gastro-publican described his service as 'one-size-fits-all', but he also offers vegetarian and gluten-free options on his menu. The museum staff recognise that the requirements of schoolchildren are different to those of a war veteran who wants someone to talk to. The riding school owner tailors riding experiences to the unique requirements of her disabled customers, and the fishery owners understand, and try to cater for, the requirements of experienced and inexperienced anglers.

The owner-managers have clear expectations of their customers and how they should behave. Some of the owner-managers feel a responsibility for their staff and for their customers which overrides profit considerations. Two of the owner-managers related incidents where, although they had successfully handled a compliant, they told the customer not to return, commenting that they cannot afford to retain that type of customer.

Abusive and overly difficult customers are not tolerated; however the owner-managers have developed strategies for dealing effectively with both whilst maintaining the quality of the relationship. This area of discussion demonstrated an insightful understanding of their customers by the owner-managers.

### *Perceptions of customer satisfaction*

The owner-managers described themselves as quality-focused; however, there is little understanding of customer priorities, how they are judged and why their customers defect. Several of the owner-managers adopt an 'inside-out' approach viewing their service from their own rather than from the customer's perspective. For example, the butcher is surprised to find that the words 'Chinese stir-fry' might be interpreted as meaning that the meat comes from China. The publican cannot see that a pub offering an almost identical service is a competitor. The fishery is disappointed that an angler might judge the quality of his or her visit by the number of the fish they catch.

Responses were vague when the owner-managers were asked about which aspects of their service their customers use to judge them. Other than having a comments book or keeping customer letters on file, none of the owner-managers carries out customer research. The most common response was that customers probably judge them on their standards and on the friendliness of their staff. The butcher was in a position to quantify an instance of this. During the recent BSE (Bovine Spongiform Encephalitis)

outbreak, sufficient new customers came to him because of his food-handling standards that he was able to refurbish his shop with the increased income.

The owner-managers gave examples of highly satisfied and highly dissatisfied customers. All of the instances of satisfaction concerned levels of service and personal attention above what was expected. Cited examples of dissatisfaction fell broadly into three categories: those who misunderstood the service; those who suffered as a result of issues outside the control of the business; those who felt they had been treated rudely by staff.

### *Customer loyalty*

Although it was clear that all the businesses benefit from customer loyalty, both in terms of repeat business and referrals, few of the owner-managers understood how loyalty is created or how WOM operates. None had strategies for exploiting customer loyalty and there was a lack of understanding about whether it is possible to do so.

All the owner-managers were clear that repeat business is their primary source of income and that WOM constitutes their main source of new customers. Most of the owner-managers were unsure about why their customers choose to return or who gives them referrals. Of those who commented on reasons for customers returning, most assumed that it was because of the friendliness of the service.

Only one of the businesses, the museum, encourages return visits. Staff give schoolchildren free passes so that they will return with their parents. The pass allows the child free entry, but the parents are required to pay for admission. The museum staff send out a newsletter to visitors and the museum benefits significantly from return visits. Some of the other firms have databases with customer details but they do not use them for marketing purposes.

The business owners know their customers and although they do not have formalised strategies for building relationships with them or developing structural bonds, they reward their regular customers with small concessions. For example, regular customers of the café do not queue. They give their order to the staff and sit at their table until their order is ready. The gastro-publican offers bowls of complimentary snacks to his regular drinkers. The butcher asks his customers if their dinner-parties were successful and they give him recipes which he in turn passes on to other customers. In these ways, the owner-managers make their services simpler and friendlier to use for returning customers and reinforce to those customers that their business is valued.

### *Word of mouth*

All the owner-managers reported that WOM was significantly more effective than advertising. Some of the owner-managers do not use paid-for advertising at all.

Only two (the falconry and the fishery) of the owner-managers were aware of their reputation. Both have access to forums in which they can read comments which have been posted. None of the others know how they are regarded and none carries out market research to find out.

At the time of the interviews, only two of the owner-managers encourage or reward WOM as part of a strategic approach to its management. The butcher makes a point of thanking customers if he finds that

they have recommended him. The photographer introduced a reward scheme which encouraged his portrait customers to give their friends discount vouchers. It was not successful. On reflection, he realised that he was rewarding future, rather than current customers and planned to introduce free gifts for customers who agreed to give vouchers to their friends, thus changing the focus of the reward from the prospect to the customer.

Both the photographer and the butcher actively manage negative WOM by contacting the person giving the negative WOM and attempting to rectify the cause. The butcher recounted an incident in which he had been made aware that one of his regular customers had complained to other customers that he stocked imported beef. On investigation, he found that the customer believed that his 'Chinese stir-fry beef' and 'Mexican spicy chicken' contained meat from China and Mexico. Significantly, the butcher had not considered that the names of these dishes might be misleading.

Although not overtly managed, there were instances of interventions which the respondents considered are part of their service to customers, but which also create memorable anecdotes, ideal for relating to others. For example, the funeral director arranges and leads a remembrance service at Christmas to which all their customers from that year are invited. The church is decorated with thousands of candles and a Christmas tree. The customers are invited to bring a decoration for the tree as a reminder of the deceased. At the end of the service, they are asked to take home a decoration from the tree, preferably not the one they brought, for their tree at home. This is to remind them that they are not alone in their loss. The business receives excellent feedback from its customers about the remembrance service. The funeral director does not consider this to be 'marketing'.

The filling-station owner used to repurchase fuel from customers who had filled their vehicle with the wrong type until regulations prevented him from doing so. When the local football team played in the Scottish Cup final, the publican opened his pub at 7.00 a.m. and provided fans travelling to see the match with hot, filled rolls. These are all memorable incidents which could support a word-of mouth strategy.

Although many of the owner-managers were internet aware and proficient, there was no evidence of the use of the emerging opportunities for marketing through electronic word-of-mouth such as web-logs, opinion fora and social-networks.

### **Critical Incident Technique (CIT) responses from rural service consumers**

This section examines the responses of rural customers to the service quality which is provided. Antecedents of loyalty are derived and customer behaviour in response to critical incidents is examined.

Three major dimensions emerged from the reported incidents and these accounted for all incidents, both positive and negative. These are discussed below. The three major dimensions are:

1. unexpected employee behaviours;
2. gestalt evaluations of the service experience; and
3. responses to service failures.

This terminology is drawn from the service quality discipline. In marketing terms, these might be described as responsiveness, reliability and recovery. The distribution of recorded incidents across these



three categories is uneven with the majority of incidents falling into the first two categories. A larger, quantitative survey will be required in order to develop statistical measures of the relative sizes of the dimensions.

It is significant that none of the reported cases concerned solely the technical features of the service product. Although these are featured in the reported incidents, they are referred to as part of another issue. For example, where food was reported to be good, it was part of an overall evaluation of the service provision which included the service provided by staff and the friendliness of the atmosphere. Where the product was reported to be poor, the cause of the dissatisfaction was the lack of service recovery and not the product failure. Whilst the interviews with SME owner-managers revealed a focus on the product, the dimensions revealed by the CIT responses show that consumers judge a firm on its service. Also mostly absent from the responses are the other tangible elements of the service proposition such as cleanliness, the condition of the decoration and furnishings, the lighting, the heating and any ambient noise. The dimensions suggest that if customers are treated well, receive what they expected to receive and the service provider effectively rectifies any failures and omissions, they will be highly satisfied. Dissatisfaction is likely to occur when any of these elements is lacking.

#### *Word-of-mouth*

Across all the age groups, genders and categories of incident, the average propensity to give WOM shows that approximately eight out of ten rural service consumers who completed the CIT instrument will give positive or negative WOM if they are highly satisfied or dissatisfied with the service quality which they receive. The respondents in this survey were highly sensitive to service quality in their giving of both positive and negative WOM. This was true of all genders and ages of respondents. The responses provide indicative evidence that rural consumers are likely to indulge in WOM behaviour regardless of their age or gender.

Each of the dimensions had a similarly high impact on WOM activity, which suggests that it is the state of satisfaction or dissatisfaction rather than its causes that prompts people to give positive or negative WOM. These responses show that highly satisfied or highly dissatisfied rural service consumers are very likely to tell other people about their experiences.

#### *Repeat business*

A similar pattern to that observed for WOM is apparent in repeat purchase behaviour. The responses to the reported incidents show that the repeat purchase behaviour of the respondents is highly sensitive to satisfaction and dissatisfaction with service quality. The impact on repeat purchase is similar across all genders, ages and categories of incident.

Where respondents have described incidents within an existing relationship, some differences emerge. Dissatisfied customers who have not used the service provider in the past reported that they will not use that provider again. Search behaviour or variety seeking which results in an unsatisfactory experience will not be repeated. Rural firms are likely to have only one attempt to impress a new customer.

Those who have used a provider in the past are more likely to give repeat business if they are highly satisfied and less likely not to return if they are highly dissatisfied. This suggests that as the relationship

between provider and customer strengthens, it is more likely to withstand unsatisfactory experiences and to strengthen as a result of positive experiences. However, frequent users of a business reported that they are as likely to give PWOM as they are to give NWOM, therefore, loyalty may be no proof against poor WOM. It is possible that in a rural area a lack of alternatives forces consumers to remain with a provider where they might prefer not to, and the giving of negative WOM is the only punitive action available to them when service standards are poor.

### *Rural service quality standards*

None of the incidents, whether satisfactory or unsatisfactory, reflected outstanding levels of service quality. Many reported incidents which led to highly satisfactory outcomes reflected firms doing what the customer expected them to do.

It is notable that across the spectrum of age, gender, category of incident, frequency of purchase and incident evaluation, the behavioural responses of rural consumers are highly service-quality elastic. Rural firms which provide high service quality appear to reap significant dividends, whilst those who provide poor service quality do so at their peril. Also the loyalty of repeat purchasers cannot be taken for granted. Repeat purchasers in this sample are highly likely to give negative WOM if dissatisfied.

The analysis of the responses indicates that as customers become more familiar with a service provider, high service quality is increasingly rewarded by repeat business. This shows that customer relationship capital is enhanced through service quality. The incidents also indicate that a first-time customer, badly treated, will not return. It is possible that such customers had no intention of returning because it was a one-off purchase.

### **Discussion and conclusions**

The SMEs in this study demonstrate socially bounded relationships with customers but none of them employs RM tools. They display a transactional focus, and it is successful transactions which develop these relationships. Satisfied customers return. Furthermore, these customer relationships are often with staff and not with the owner of the business. This supports the findings of Macintosh (2007) who found positive links between customer orientation, staff expertise and relationship quality. It is also supported by the findings of the customer survey carried out for this research which showed that customers value positive interactions with service staff. This is similar to the finding of Wilson and Stokes (2004) that transactions in SMEs which take place in a rich social context add to customer value and create trusting relationships.

This suggests that a focus on transactions is not only compatible with relationship building, it underpins it. These findings do not support the existence or appropriateness of relationship marketing strategies for SMEs, but they indicate that a focus on successful transactions which are delivered within a social, trusting context can create relationship quality, the sum of which represents an asset for the SME. This asset can be described as customer relationship capital.

These findings differ from those of Zontanos and Anderson (2004) who acknowledge that SMEs do not practise classical RM but develop socially bounded relationships by using advanced interaction skills.

Rather, in this case, it is the focus on successful transactions underpinned by attention to individual customers and a visibly ethical orientation which over time may create relationship quality.

It was apparent that owner-managers focus not only on their own interpretation of service quality, but also on providing individual customers with service quality within a trusting relationship. The literature suggests that they are justified in doing so. Incentives have not been found to have a significant impact on loyalty (Hennig-Thurau *et al.*, 2002). Rather it is internal factors such as empathy and reliability which improve customer satisfaction (Chaniotakis and Lympereopolous, 2009); it is customer orientation and staff expertise which underpin relationship quality (Macintosh, 2007); and it is trust in the firm's intentions and values which drives customer commitment (Martin, *et al.*, 2004).

The CIT results demonstrate that one of the key drivers of customer satisfaction and consequently of loyalty and WOM is successful interactions with staff. Although techniques have been developed to successfully manage loyalty behaviours, it is possible that these are less compatible with the current business approaches of rural businesses than the development of relationship quality which the businesses are intuitively pursuing. This is consistent with the conclusions of Ennew *et al.* (2000) that:

*'the active management of WOM is less effective than other relational approaches such as the delivery of high quality service, building good customer relationships and ensuring that staff are friendly and helpful.'*

(Ennew *et al.*, 2000, p.82)

Approximately half of the incidents were caused by unexpected behaviour of staff. Researchers have indicated that trust is a key dimension in the service encounter. Gremler *et al.*, (2001) write that trust is developed through the consumer's confidence in the employee's reliability and integrity. Evidence of this is demonstrated in the CIT accounts. Empathy is demonstrated by staff showing genuine care and concern for the customer and responding to the needs of the customer.

In the analysis of owner-managers' orientations and goals, it became apparent that integrity plays a large part in their self-perception as business people. This ethical position, coupled with a quality focus may provide an ideal foundation for the development of relationship quality without changes in marketing strategies.

This is an important finding for rural small businesses because it suggests that the provision of service quality, in a form which is valued by customers, develops and reinforces loyalty, thus helping the firms create a valuable customer base. The relationship quality which underpins this customer base protects it from occasional lapses in service standards. Relationship quality can therefore be considered to be a form of capital for rural SMEs. This customer relationship capital may constitute a unique asset which can protect SMEs from better-resourced competition.

This suggests that as relationship quality develops the level of customer commitment also increases. This provides a better explanation for the SME-customer interface noted in previous literature than the suggestion that relationship marketing is appropriate for rural SMEs. There is no evidence in these anecdotes of reciprocity or the existence of either an affective or a structural relationship. No one is locked in through the activities of the firms.

Relationship quality and not relationship marketing not only describes rural customer behaviour, but it is also compatible with the orientation and marketing skills of rural SME owner-managers.

There is also, as noted earlier, some evidence that the owner-managers feel a sense of responsibility to their customers, to their staff and in some cases to their communities. This ethical stance may, or may not, be a response to the nature of their visibility, but it manifests itself in the type of behaviours which are likely to develop trust and empathy. Trust and empathy are accepted to be key determinants of customer satisfaction. The rural ingredient which supports the development of customer relationship capital may be old-fashioned virtue. People trust their local businesses.

The relationship quality which is developed from these encounters over time stimulates both return visits and the giving of positive WOM. It also protects firms from losing customers through occasional lapses in quality standards. Thus, relationship quality is a valuable asset for the firm and can be considered to be a type of capital. The sum of a firm's relationship quality with its customers might be termed customer relationship capital.

## **Conclusion**

Rural businesses are assumed to benefit from closeness to their customers and other actors in their value chain. This closeness creates relational bonds and provides the business owners with valuable access to market intelligence and to business opportunities (Anderson and McAuley, 1999; Day *et al.*, 1998).

The results of this research show that although the SME owner-managers are embedded in, and sensitive to, their communities, they are not network-orientated. Relational bonds are not evident; rather it is through the provision of transactional quality over time that loyalty with customers is developed. Thus, the discussion over whether a transaction or a relationship paradigm is appropriate for rural SMEs is clarified.

The research contributes to the discussion about the distinctive assets of SMEs which competitors find difficult to replicate. The evidence indicates that it is relationship quality built over time and founded on successful, empathetic transactions which creates a unique asset for rural service SMEs and not the core technical competences of the business.

An implication for SME owner-managers from this study is that their focus on transactional quality is justified. None of the 116 incidents indicated the existence of a relationship with a service provider. Relationship marketing is not compatible with the orientation of these firms and relationships with service providers do not appear to be valued, or even noticed by customers. The relationship marketing tool-kit is an expense that can probably be avoided by rural service SMEs.

## Bibliography

Anderson, A. and McAuley, A. (1999), Marketing Landscapes: the social context, *Qualitative Market Research: An International Journal*, 2, (3), pp. 176-188.

Anderson, A., Osseichuk, E. and Illingworth, L. (2009), Rural small businesses in turbulent times: impacts of the economic downturn, *Paper presented at the 7th rural entrepreneurship conference, Cumbria*.

Anderson, J. and Narus, J. (1990), A model of distributor firm and manufacturer firm working partnerships, *Journal of Marketing*, 54, (January), pp. 42-58.

Bitner, M., Blooms, B. and Tetreault, M. (1990), The service encounter: diagnosing favourable and unfavourable incidents, *Journal of Marketing*, 54, pp. 71-84.

Brassington, F. and Pettit, S. (2003), *Principles of Marketing*, Harlow, Pearson Education.

Bryman, A. and Bell, E. (2003), *Business Research Methods*, Oxford, Oxford University Press.

Burnett, K. and Danson, M. (2004), Adding or subtracting value? Constructions of rurality and Scottish quality food production, *International Journal of Entrepreneurial Behaviour and Research*, 10, (6), pp. 384-403.

Chaniotakis, I. and Lymperopoulos, C. (2009), Service quality effect on satisfaction and word of mouth in the health care industry, *Managing Service Quality*, 19, (2), pp. 229-242.

Chaston, I. and Mangles, T. (2002), *Small Business Marketing Management*, Basingstoke, Palgrave.

Cosh, A. and Hughes, A. (2000), *British Enterprise in Transition: Growth Innovation and Public Policy in the Small and Medium Sized Enterprise Sector 1994-99*, ESRC Centre for Business Research, University of Cambridge, Cambridge

Day, J., Dean, A. and Reynolds, P. (1998), Relationship marketing: Its key role in entrepreneurship, *Long Range Planning*, 31, (6), pp. 828-837.

Dinis, A. (2006), Marketing and innovation; useful tools for competitiveness in rural and peripheral areas, *European Planning Studies*, 14, (1), pp. 9-22.

- East, R., Gendall, P., Hammond, K. and Lomax, W. (2005), Consumer loyalty: singular, additive or interactive? *Australasian Marketing Journal*, 13, (2), pp. 10-26.
- Easterby-Smith, M., Thorpe, R. and Lowe, A. (2002), *Management Research. An Introduction*, London, Sage.
- Egan, J. (2001), Throwing the baby out with the bathwater, *Market Intelligence and Planning*, 19, (6), pp. 375-384.
- Ennew, C., Banerjee, A. and Li, D. (2000), Managing word-of-mouth communication: empirical evidence from India, *International Journal of Bank Marketing*, 18, (2), pp. 75-83.
- European Commission (1999), *ESDP-European Spatial Development Perspective: Towards balanced and sustainable development of the territory of the European Union*. Brussels: CEC
- Flanagan, J. (1954), The Critical Incident Technique, *Psychological Bulletin*, 51, (4), pp. 327-358.
- Gabbot, M. and Hogg, G. (1996), The glory of stories: using Critical Incidents to understand service evaluation in the primary healthcare context, *Journal of Marketing Management*, 12, pp. 493-503.
- Gremler, D. (2004), The Critical Incident Technique in service research, *Journal of Service Research*, 7, (1), pp. 65-89.
- Gremler, D., Gwinner, K. and Brown, S. (2001), Generating positive word of mouth through customer-employee relationships, *International Journal Of Service Industry Management*, 12, (1), pp. 44-59.
- Gronroos, C. (1984), A service quality model and its marketing implication, *European Journal of Marketing*, 18, (4), pp. 36-44.
- Gronroos, C. (1997), From Marketing Mix to Relationship Marketing - towards a paradigm shift in marketing, *Management Decision*, 35, (4), pp. 322-339.
- Harker, M. (1999), Relationship marketing defined? An examination of current relationship marketing definitions, *Market Intelligence and Planning*, 17, (1), pp. 13-20.
- Hennig-Thurau, T., Gwinner, K. and Gremler, D. (2002), Understanding relationship marketing outcomes, *Journal of Service Research*, 4, (3), pp. 230-247.
- Heskett, J. (2002), Beyond customer loyalty, *Managing Service Quality*, 12, (6), pp. 355-357.

Heskett, J., Sasser, W. and Schlesinger, L. (1997), *The service profit chain: how leading companies link profit and growth to loyalty, satisfaction, and value*, New York, Free Press.

Hill, J. (2001), A multidimensional study of the key determinants of effective SME marketing activity: Part 1, *International Journal of Entrepreneurial Behaviour and Research*, 7, (5), pp. 171-204.

Hurst, J., Niehm, L. and Littrell, M. (2009), Retail service dynamics in a rural tourism community, *Managing Service Quality*, 19, (5), pp. 511-540.

Levitt, T. (1960), Marketing Myopia, *Harvard Business Review*, (July-August), pp. 22-42.

Macintosh, G. (2007), Customer orientation, relational quality and relational benefits to the firm, *Journal of Services Marketing*, 21, (3), pp. 150-59.

Martin, S. S., Gutierrez, J. and Camarero, C. (2004), Trust as the key to relational commitment, *Journal of Relationship Marketing*, 3, (1), pp. 53-73.

Morris, C. and Buller, H., 2003. The local food sector: a preliminary assessment of its form and impact in Gloucestershire. *British Food Journal*, 105, (8), pp. 559-566.

O'Malley, L. and Tynan, C. (2000), Relationship marketing in consumer markets. Rhetoric or reality? *European Journal of Marketing*, 34, (7), pp. 797-815.

Palmer, R., Lindgreen, A. and Vanhamme, J. (2005), Relationship marketing: schools of thought and future directions, *Market Intelligence and Planning*, 23, (3), pp. 313-330.

Parr, M. and Lashua, B. (2004), What is leisure? The perceptions of recreation practitioners and others, *Leisure Services*, 26, (1), pp. 1-17.

Rao, S. and Perry, C. (2002), Thinking about relationship marketing: Where are we now? *Journal of Business and Industrial Marketing*, 17, (7), pp. 598-614.

Roberts, S. (2002), Key drivers of economic development and inclusion in rural areas, Initial scoping study for the socio-economic evidence base for DEFRA

Scottish Government (2008). *Rural Scotland Key facts 2008: People and Communities*. Available at: <http://www.scotland.gov.uk/Publications>. Accessed 9 December 2010

Scottish Parliament (2007), Rural Tourism, *Spice Briefing*. Available at <http://www.Scottish.parliament.uk/business/research>. Accessed 11 December 2010

Sheth, J.N. and Parvatiyer, A. (1995), Relationship marketing in consumer markets: antecedents and consequences. *Journal of the Academy of Marketing Science*, 23, (4), pp. 255-71

Smallbone, D., North, D., Baldock, R. and Ekanem, I. (2002), Encouraging and supporting enterprise in rural areas, *Report to the Small Business Service, London*.

South of Scotland Alliance (2006), South of Scotland Competitive Strategy. Available at <http://www.sup.org.uk/PDF/south%20scot%20compet%20strat.pdf>. Accessed 10 January 2008

Webster, F. (1992), The changing role of marketing in the organisation, *Journal of Marketing*, 56, (4), pp. 1-17.

Wilson, N. and Stokes, D. (2004), Laments and serenades: relationship marketing and legitimisation strategies for the cultural entrepreneur, *Qualitative Market Research: An International Journal*, 7, (3), pp. 218-227.

Zontanos, S. and Anderson, A. (2004), relationships, marketing and small business. An explanation of links in theory and practice, *Qualitative Market Research: An International Journal*, 7, (3), pp. 228-236.



14<sup>Th</sup> TOULON-VERONA CONFERENCE  
QUALITY IN SERVICES

University of Alicante, Spain 1, 2, 3 September 2011

**CARE SERVICES IN COMMUNITY PHARMACIES: THE ITALIAN  
PHARMACIST'S PERSPECTIVE**

Giancarlo Nadin

Università Cattolica del Sacro Cuore Milano

S.E.GEST.A. dept. of management science

[giancarlo.nadin@unicatt.it](mailto:giancarlo.nadin@unicatt.it)

Giulio Cesare Pacenti

Pharma Consulting Group

Florence – Italy

[gc.pacenti@pharmaconsultinggroup.it](mailto:gc.pacenti@pharmaconsultinggroup.it)

**Abstract**

*Many transformations are inducing pharmacists to rethink the way they manage their business: public payments from dispensing therapy continue to be offset by OTC selling which requires more marketing effort, the increasing share of generic pharmaceuticals in respect to branded ones which drives to profit reduction and finally the goal of decongestion the central welfare system by distributing service at the periphery, formally enacted by an Italian 2009 law.*

*If these exogenous factors are compelling an evolution in the pharmacist's profession we speculate if the operators are ready and willing to embrace this kind of innovation since dispensing prescription medications is the primary operation practice.*

*The purpose of this paper is therefore to assess the actual and prospected pharmacist's behaviour to articulate care service offering and subsequently to investigate the antecedents which can boost or impede the path to service innovation.*

*An interpretative model has been tested by a structured equation modelling approach over an explorative survey of 156 Italian pharmacists. The findings confirm the hypotheses postulated as regards the role and impact of the antecedents as drivers to the orientation to service.*

**Key words: pharmacy, innovation, service management**

**Introduction**

Starting from a generalization, at least valid for the UE countries, population is becoming older and consequently each national healthcare system has to face the problem to organize a more and more demanding service as elder people have a coefficient of health expenditure that is 5 times the adult one. On the other hand, recent crisis and the need to control public spending is driving toward budget cuts in every chapter of expenditure, included the health system. In this scenario all central administrations are looking for solutions that combine effective and efficient community services to cost savings. Many countries have glimpsed in the care service pharmacy one opportunity to get

these goals. Pflieger et al. (2008) have studied therapeutic pathways in Scotland. It emerges that effectiveness health service depends on the surveillance rather than on appropriateness diagnosis and therapy which have reduced range of errors (van Mil, 2010). The way, patients follow prescription and perform adherence to therapeutic protocol make seriously the difference as regards the quality of health and the total cost for the community as well. That's why, almost every country is looking for the correct path to involve community pharmacy in the active support to service offering besides the normal activity of drug distribution (Hughes et al. 2010).

In this paper we want to investigate this issue in the Italian domain as pharmacies shows more or less interest in this subject and central and local administration are legislating to stimulate a full entrance of the operators in the periphery patient service offering. To pursuit this goal we have launched a preliminary and exploratory survey aimed to assess the sentiment of the pharmacists toward service innovation. Before entering the discussion of specific research a brief dissertation of the literature on this issue is proposed.

## **Literature review**

Dunlop and Shaw (2002) are researchers who probably by first hand have explored the pharmacist tenure toward service. Their survey involves a sample of 342 pharmacists working in New Zealand. Near ten years ago the portrait depicted in that survey showed a reluctant role of the pharmacy to embrace service offering.

In ten years after things have changed as outlined by Hughes et al. (2010) in their recent research but many concerns are still valid. The authors, approaching the problem by the BPCS (Behavioral Pharmaceutical Care index) are signaling that in 12 European countries a satisfactory implementation of cognitive services in the pharmacies is still to come. There could be still a centered role on drug dispensing activities rather than the active support for therapy surveillance and for adherence to prescription.

Roberts et al. (2008, 2005) after extensive researches in the Australia outline many concerns about the full development of service in pharmacy. First of all they suggest the complex relationship among the pharmacist and the others healthcare operators such as physicians, general practitioners, specialist and so on. That same problem has emerged also in a survey over Switzerland pharmacies (Niquille et al., 2010). In the service perspective heterogeneous operators share experiences and strictly collaborate for the sake of the patient instead of working separately as happens traditionally when pharmacist performs drug dispensing and physicians make prescriptions. This means that they share the burden of efficacy measurement of the therapy solution, thus are compelled to open a frank and constructing dialog. This means that an evolution of the professions, both sides, is required and is welcome and thus communication and trust is pivotal Lalonde et al. (2010). Focusing on the pharmacy, therefore a knowledge and skills evolution is one of the main concerns for the massive deployment of the services in pharmacy (Liu et al. 2010, Teinila et al. 2010).

Roberts et al. (2008, 2005) suggest also team building (internal and external) and communication also toward the patients as services in the pharmacy must be promoted to citizens to reinforce offering. Although this is not the main issue (Doucette et al., 2006) also layout and premises of the pharmacy could represent a concern. Service offering needs open space and, at the same time, privacy settings (private seating room) that are nowadays far from the typical layout of the pharmacy, basically centered on the sales counter.

Finally another pivotal aspect is the role of the patient, citizen and customer at the same time. Differently from the past the pharmacy has to reinterpret the customer expectations, to intercept them and to try to satisfy the needs. This could be not so easy because in service context, needs are more complexes than in drug dispensing and further more pharmacist has to evaluate the willingness to pay of the customer for the new service offered. Kjome et al. (2010) have done a preliminary survey in order to understand how patients affected by diabetes were satisfied by a new service of surveillance launched by the government through the collaboration of the Norwegian

community pharmacies. The results were encouraging as patient declared the pivotal role of pharmacists in between the base service of specialist and the hospitals. The same positive reaction is also evident in other researches aimed to assess the social and the personal efficacy in moving down services from hospitals or specialist practitioners to the pharmacies (Montgomery et al. 2010, Westerlund et al. 2007, Taylor et al. 2009). But what happens when service is not supported by NHS protocol and thus is not totally or partially covered by reimbursement? Barner and Branvold (2005) have completed a survey in USA covering a sample of women in the age of menopause. There is a strong correlation between willingness to pay and patient urgency and the generalized outcome of this research is a confirmation of willingness to pay for counseling and support offered by the pharmacies. Generally speaking it would seem to find the willingness to pay for pharmacy services but we have to underline that customer is not used to have service in the pharmacy so this is still one of the main open point for the operators.

When we talk about the orientation of pharmacist to implement cognitive services another concern arises. Service orientation does not mean incremental efficacy of the pharmacy but entails business model review and thus introduces a new concept for many pharmacies who have operated for many years under the umbrella of a stable, rich and secure (with no risk) market. Embracing the path of service offering requires the owner's willingness to accept the risk of failing or insecurity. Actually the decision to launch service offering exposes to certainty of investments and growing running costs against which there is no secure revenues, at least in the beginning.

Many researchers (Grindrod et al. 2010, Hall e Smith 2006, Bush et al. 2006, Scahill et al. 2010), who have investigated this issue for retail pharmacies, point out potential concerns about pharmacist innovation and entrepreneurial approach. They converge to recognize the presence of factors that are deterrents for entrepreneurial innovation such as apathy, lack of motivation, focus on the actual ongoing and myopia in term of vision, silos-thinking and not open to approach problem at 360 degree.

As regards the Italian situation we have to say that the last years have shown to the owner of the pharmacy a different scenario characterized by discontinuity, relevant margin and profit cuts due to the end of the fixed price of drugs, reduction of reimbursement by NHS and therefore look for new sources of revenues such as cosmetic categories.

In this modified market framework, many owners, most of whom had already got a professional maturity, have decided to leave retail activity selling to private retailing chains or to new and fresh entrepreneurs. We therefore agree with the findings of Feletto et al. (2010) who, according to a survey over Australian pharmacists, affirm that there is a new generation of entrepreneurs that are ready and willing for model change. Our expectation about the Italian domain is that pharmacies are now in mid situation where the owners have clear in mind that the past has gone and that the future is uncertain and requires new vision but at the same time there is no sharp and clear idea how to face the future.

### **An interpretative model**

The quick glance at the literature related to the pharmacy service offering confirms the complexity of the issue and induces us to think that the innovation process has many faces and needs a comprehensive approach to cover it.

For this reason we have designed a model aimed to interpret the sentiment of the Italian pharmacy owners and which is able at the same time to reconnect the willingness to implement services to a series of antecedents; elements that can influence positively or negatively (deterrents) the service orientation of the pharmacists.

Figure 1 shows the model composed by antecedents, consequents and hypothesized factors of regression.

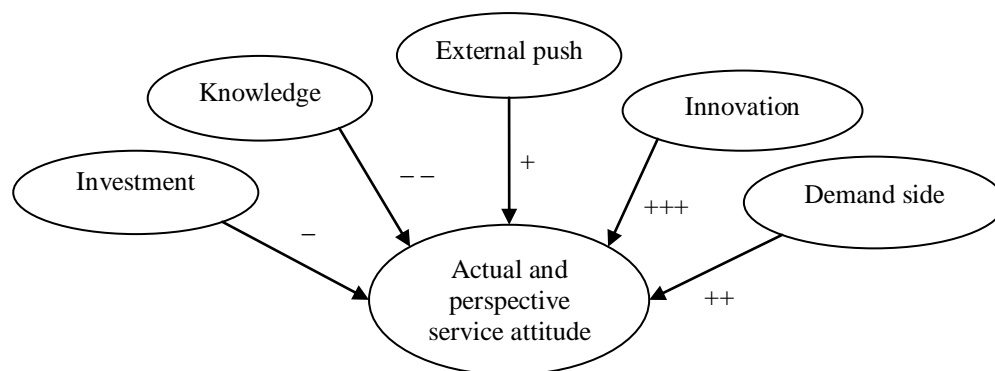


Figure 1 - The interpretative model for pharmacist orientation to service implementation

In our vision five factors have influence on the decision of the owner to implement services. According to the cited literature three of them are expected to behave positively toward service orientation and the remaining two will have a negative influence. The model suggests that the combination of the five elements drives the direction and intensity of service orientation. Service orientation will be investigated in the actual dimension (what has been done) and in the perspective attitude (what the entrepreneur is willing to do in the next future).

### Hypothesis underlying the model

A quick sight observation of international literature centered on the deployment of the care services in the community pharmacies induce us to think that the evolution path of this special retail category is not easy and involve contextually heterogeneous competencies.

That's for we have tried to define an interpretative model of the resources involved in the process and the influence that each can have on the orientation of pharmacist to adopt cognitive services.

The model is based on some hypotheses that require a first description and in the proceeding of the paper their submission to the validation process.

The drivers which influence the attitude operate in different manner; some of them have a positive influence and on the contrary some of them are deterrent to the evolution process.

We posit (**Hp1**) that innovation, demand side and external push have a positive effect on the willingness to innovate the retail model toward service. The owner of a pharmacy covers a double role: in one side is a professional of the health and on the other is an entrepreneur. This last attribute is one on which service innovation should make lever since every entrepreneur is naturally inclined to innovation.

From this perspective we also posit (**Hp2**) that among the positive drivers of the pharmacy evolution, innovation is the strongest driver for change. The recent history of pharmaceutical distribution has seen many changes as declared before; these changes have deeply influenced the vision of the pharmacist toward the profession and the entrepreneurship. The owners of the pharmacies are therefore alerted for a next change that will ask them to reinterpret their role in the business and in the community at large. In this scenario another element of transition is emerging. Many pharmacies are experiencing turnaround for the sake of the second (or third) generation entering the administration of the business. Service innovation can be seen a strong viaticum for a qualified participation of the new generations to retail business evolution.

Out of our opinion the demand side (existence and accessibility to the demand for service) is a strong driver for service orientation since pharmacists are confident that patients, citizens and customers trust in the competencies of the pharmacist and therefore will be open to redirect their demand to pharmacist's offering. In this scenario we posit that (**Hp3**) this positive influence is

strong in the perception of the pharmacists but not the most relevant since they have the fear that this service could be interpreted by customers as free of charge.

The weakest positive effect is expected on the external push. Out of our opinion, external push (such as compliance to law dictate or opportunity to exploit it) (**Hp4**) are seen by pharmacists not so important because they experience a potential reduced supporting effect of the National Health System due to the need to cut national budget and general expenditure. This element is therefore seen as a weak driver as the pharmacist does not envisage any significant opportunity for national reimbursement for service delivered to the collectivity.

As regards the attributes that are predicted to operate a negative effect on the attitude toward service we outlined two factors: investments and knowledge (**Hp5**). Inside this expectation we posit that knowledge is stronger than investments (**Hp6**). Operators has already managed investment projects such as modernization of the layout and the premises and therefore this could not be a relevant problem for owner but not as much we postulate for knowledge implication.

If the investment issue could be represented by the constraint to change the location for a bigger one (in Italy a law enforces pharmacist to maintain the location of the pharmacy within the border of a specified area and this can be a serious problem for urban and downtown pharmacies), knowledge re-organization could be a greater issue for pharmacist. Service offering could require to add incremental human resources and also, more intriguing, to add new profession and skills aside the classical ones (general practitioner, physician, medical specialist, nurse, chemical analyst). This could be a serious problem since it can be seen by pharmacist as a discontinuity of the traditional organizational ongoing; new interaction with heterogeneous competencies inside and outside the pharmacy, new sector language to learn, new problem to face, incremental organizational problems to solve, ect.

In order to explore these hypotheses and validate them, we have put in place an exploratory research aimed to investigate the sentiment of the pharmacists toward service innovation.

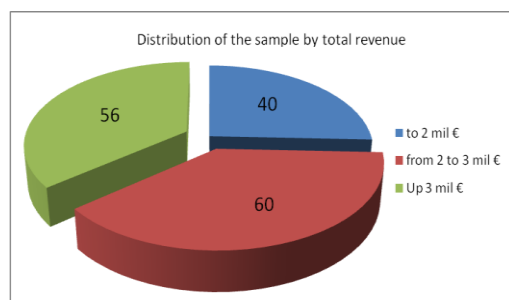
## Research development and results

### *Sample*

The sample consisted of 156 telephone interviews made with pharmacist owner of community pharmacy in Italy. The sample identification has been subjective to the interviewer since selection has been based upon information about the activities of the pharmacies. Primarily it has been chosen the ones who declare to offer services by website information. Secondly the selection has been done based on the pharmacy declared revenue. This two criterions focus on the maximization of the chance to find cases which have potentially approached the offering of services. The only constraint was a quota established on the base of localization of the pharmacy. The sample was thus composed by 51% operating in the north, 29% at the centre and finally 20% at the south in compliance with the general distribution of pharmacies in the country.

Regarding the profile of the participants we have to underline that the average size of the pharmacies surveyed are not aligned with the standard Italian pharmacy, that is generally speaking sized about in a range of 1,2-1,5 million Euro of turnover per year.

As shown in figure 2 the composition of the sample reflects an upper average of the size for the pharmacies.



## Figure 2 – sample composition by respondent turnover

Interviews, administered by telephone, occurred for five weeks from September 2010 to December 2010. Each interview had a length of 25 minutes and required several attempts in order to have full complicity of the manager in charge (usually the owner) of the pharmacy. The ratio between the completed interviews and the total pharmacies contacted was 50%. The fall from total contacts to the surveyed ones was due primarily to the unavailability of the owner since the full engagement in the administration of the daily retail activity is rather incompatible with the time span of the survey. Actually many interviews required two or more phone calls in order to catch the availability of the respondent. The rate of incomplete or unfinished interviews was negligible and it can be essentially motivated by the lack of time of the interviewee and only seldom to the absence of his/her commitment to this subject.

### *Questionnaire and validity of the construct*

The questionnaire administered to the pharmacists was composed by 18 plus 4 items. Questions were all formulated affirmative and on a closed scale in order to acquire the opinion of the respondent toward the assertion on a 10 Likert's scale where 1 was rated "I don't agree the assertion" and 10 was "I totally agree the assertion".

Questions have been defined in accordance with the model and the underlying hypotheses and have been also compared to the questions and the structure of the questionnaire emerging from the literature review.

The last four items were formulated in order to classify the respondents (turnover, employees, catchment area – rural, urban, metropolitan centre, suburb, etc. – and finally information of the respondent - position, role and age).

The first 18 questions were defined in order to cover all the main issues emerging from the analysis of the framework model depicted above and especially with the aim to perform the validation (confirmation/disconfirmation) process of the postulated hypotheses.

A confirmation factor analysis was performed to understand the reliability of the survey to support the model and therefore to assess convergent and divergent validity of each of the constructs operating in the model.

Figure 3 shows per each item of the questionnaire the regression weight to the construct and the explained variance measured in terms of squared multiple correlation.

Per each construct made by two or more observed variable (items of the questionnaire) is thus reported the Cronbach's Alpha index as indicator of the internal consistency of the construct (Churchill 1979).

Summary of measures				
Construct	Sample items	Standardized regression weights (*)	squared multiple correlations	Cronbach's $\alpha$
<b>Actual service attitude</b>				<b>0,89</b>
	D1 - Importance of service lines put in place over the last two years	0,92	0,84	
	D2 - Strategic concept of offering services in the current	0,82	0,67	
	D3 - Importance of the contribution (direct and indirect) of services in terms of actual sales	0,92	0,85	
<b>Perspective service attitude</b>				<b>0,93</b>
	D4 - Propensity to extend services over the next two years	0,88	0,77	
	D5 - Importance of the contribution (direct and indirect) of services in terms of future sales	0,96	0,92	
	D6 - Opportunity assessment related to the application of the law of services (L.69/09)	0,95	0,91	
<b>Demand side</b>				<b>0,83</b>
	D7 - Pharmacist's credibility in the eyes of the patient	0,72	0,52	
	D8 - Willingness to pay for services	0,88	0,77	
	D9 - Awareness and accessibility of services by the patient	0,77	0,59	
<b>Investments</b>				<b>0,79</b>
	D10 - Complexity for re-organizing of space and layout	0,89	0,79	
	D11 - Significant investment in facilities and resources	0,74	0,55	
<b>Knowledge</b>				<b>0,75</b>
	D12 - new and additional skills required	0,73	0,54	
	D13 - Complexity in heterogeneous resource management	0,84	0,71	
<b>Innovation</b>				<b>0,86</b>
	D14 - Willingness to invest financial and non financial resources in the activity	0,87	0,76	
	D15 - Willingness to face uncertainty related to changment	0,82	0,67	
	D16 - Evolution of the profession and the need for change	0,76	0,58	
<b>External push</b>				<b>0,74</b>
	D17 - Innovation driven by liberalization of the distribution	0,63	0,40	
	D18 - Changes brought about by the introduction of L.69/09	0,93	0,86	

(\*) =  $p < 0,001$  ; (a) =  $p < 0,05$  ; (c) =  $p > 0,05$

Figure 3 – Confirmatory factor analysis of the items observed

All the seven constructs descending from the model obtain a Cronbach's Alpha indicator score higher the rule of thumb threshold defined in 0,6 in a range from zero to one (Churchill 1979).

Per each construct, observed variable exercises a relevant influence since regression weight is never below the value of 0,63.

Squared multiple correlation as an index of extracted variance is never below 0,5 per each item, except for one item which is 0,4.

Finally in order to confirm construct validity of the survey we have confronted factor score loaded on a double-entrance table (items or observed variables versus construct or latent variables) as reported in figure 4.

	D18	D17	D10	D11	D14	D15	D16	D12	D13	D9	D8	D7	D3	D1	D2	D5	D6	D4
<b>External push</b>	0,76	0,12	0,04	0,01	-0,04	-0,02	-0,02	0,01	0,03	-0,03	-0,04	-0,02	0,03	0,03	0,02	0,03	0,03	0,01
<b>Investments</b>	0,03	0,01	0,59	0,21	0,04	0,02	0,02	-0,01	-0,03	0,03	0,04	0,02	-0,03	-0,03	-0,01	-0,03	-0,03	-0,01
<b>Innovation</b>	-0,04	-0,01	0,05	0,02	0,38	0,23	0,20	0,02	0,04	-0,04	-0,06	-0,02	0,04	0,05	0,02	0,03	0,03	0,01
<b>Knowledge</b>	0,06	0,01	-0,07	-0,02	0,07	0,05	0,04	0,22	0,47	0,05	0,08	0,03	-0,07	-0,08	-0,04	-0,03	-0,03	-0,01
<b>Demand side</b>	-0,07	-0,01	0,08	0,03	-0,08	-0,05	-0,04	0,03	0,06	0,24	0,39	0,16	0,05	0,06	0,03	0,07	0,07	0,03
<b>Actual service attitude</b>	0,04	0,01	-0,04	-0,01	0,06	0,03	0,03	-0,02	-0,05	0,03	0,04	0,02	0,27	0,31	0,15	0,03	0,03	0,01
<b>Perspective service attitude</b>	0,02	0,00	-0,02	-0,01	0,02	0,01	0,01	-0,01	-0,01	0,02	0,03	0,01	0,02	0,02	0,01	0,40	0,39	0,14

Figure 4 – factor score loading per each item and construct.

Maximum score of the factor loading is always obtained in the predicted cross between items and construct. No items have significant and high values in the column except for the cell connected to

the predicted construct. Each construct gets the best score in conjunction with the selected item and the score of the other items are lower and rather not significant.

Since maximum factor score in figure 4 is located on the diagonal (see cells gold colored), namely in the predicted combination of items and construct, we can bring to the conclusion that the model and survey data benefit of construct validity both internal and external.

#### *Fitting the model*

Literature review shows that many elements are influencing the orientation of the pharmacies toward service offering. Our model is aimed to investigate the previous five constructs as drivers of the service orientation of the retailer. More in detail we will try to compare the five constructs with the declared pharmacist's orientation, where this latter can be split into two constructs according to perspective of the pharmacist.

The orientation is therefore divided between the actual framework and a future perspective toward service offering implementation.

As shown in figure 4 the two constructs are formed by three different items each, which are substantially separated and non convergent.

The first, the actual one, is related to the assessment of the effort and the performance of the services activated till the moment of the survey. The latter, the perspective one, is suited to evaluate the future effort and performance perception the pharmacist has now related to service implementation in the next two years.

As a first investigation we compare the actual and the perspective attitude to detect any relation between the two elements. Figure 5 shows on a Cartesian plane, defined by the two elements as vectors on a nominal scale 1-10, the position held by the 156 respondents of the survey.



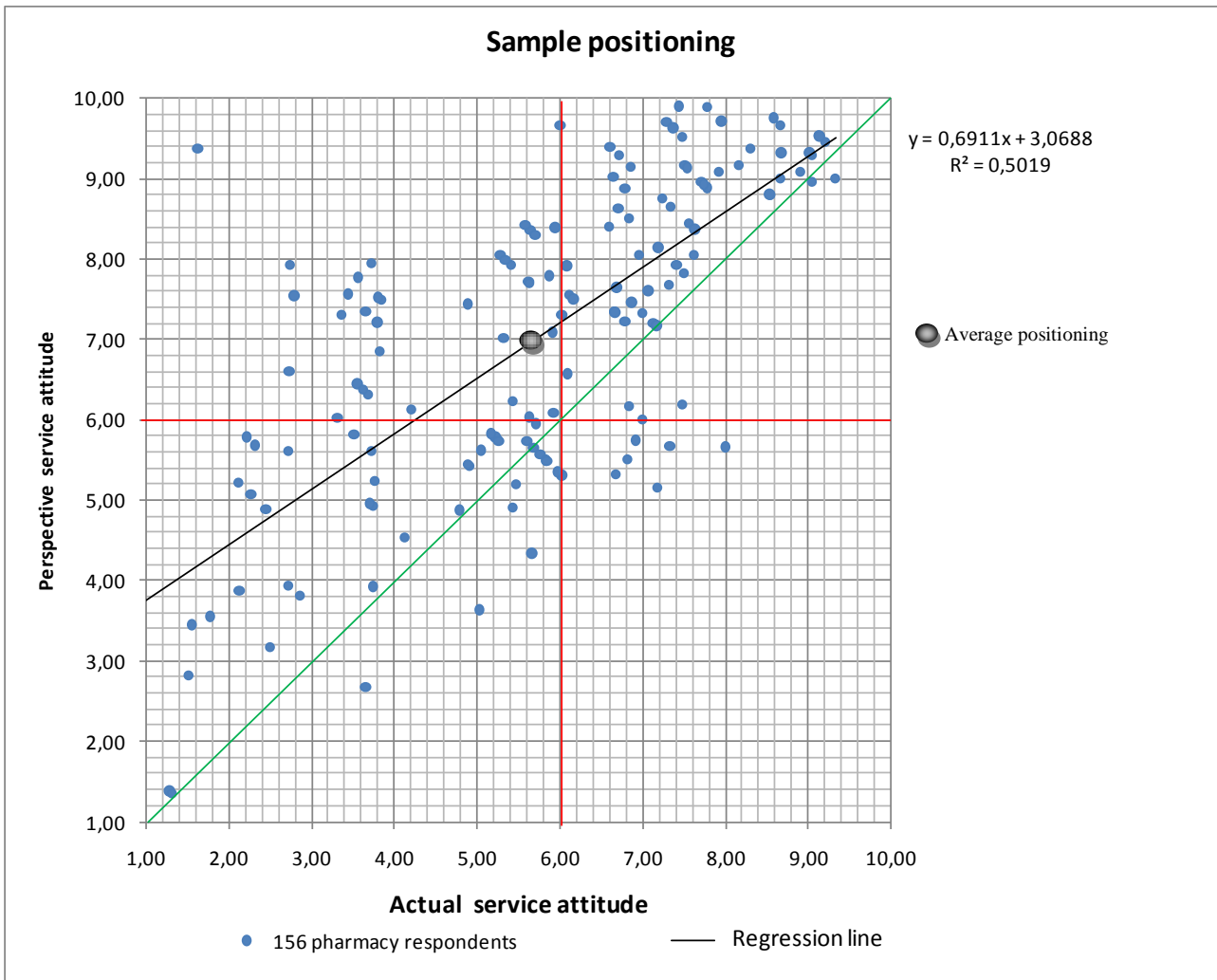


Figure 5 – Actual versus Perspective service attitude

There is a positive regression between actual and perspective attitude toward service in the sample. Regression line (black line) is positioned over the bisector line (green line) thus respondent believe that in the next future they will be more inclined to invest in service. At the same time the propensity (regression index) is below unity showing some reluctant elements to innovate in the future compare to the past.

The explained variance of the future willingness to add service is covered by 0,5 by past decisions. It is therefore evident that some other factor drivers toward the decision.

In order to investigate on the unexplained variance we try to fit the previous model with the data gathered by the survey.

Figure 6 shows the result of the path analysis performed by AMOS version 16.00 (Kline 1998)

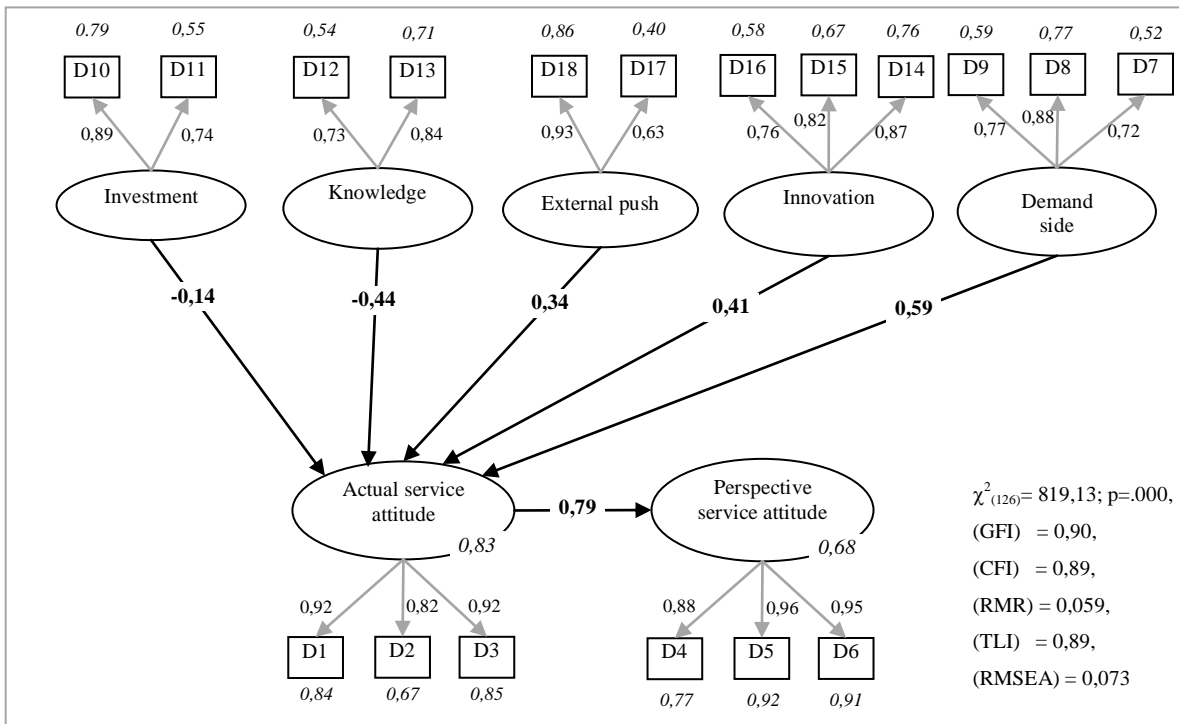


Figure 6 – Path analysis between antecedent factors and service attitude

To validate this model and confirm the fitting of the predicted model to the data dispersion, we analyze different fit indices. Despite the inner validation process of the statistical program confirms the model admitting it as working solution (Byrne 2001), the following indices let us to think that the data do not fit statistically properly since some indices do not met minimum requirement.

First of all there is a significant  $\chi^2 = 819$  with 126 degree of freedom and  $p = 0,000$ , where, according to Carmines & McIver (1981) usually the relation between chi-square and degree of freedom should not exceed the threshold of 3.

The Goodness-of-Fit (GFI) index, the percentage of observed covariances explained by the model, amounts to 0,90 and, therefore, is just at the baseline threshold stated as 0,90 (Bollen, 1990).

The value of the Comparative Fit Index (CFI), which compares the covariance matrix predicted by the model to the observed covariance matrix, is 0,89, still just below the threshold.

The Tucker-Lewis Index (TLI) amounts to 0,89. An amount close to 1 indicates a good fit. By convention, values of TLI below 0,90 indicate a need to respecify the model.

The Root Mean Square (RMS) residual is 0,059. The closer the RMR is to 0 for a model being tested, the better the model fits. RMR is the coefficient which results from taking the square root of the mean of the squared residuals, which are the amounts by which the sample variances and covariances differ from the corresponding estimated variances and covariances, estimated on the assumption that the model is correct. The general rule of thumb assumes that the RMR should be lower than 0,05 for a good fit (Anderson and Gerbing, 1988).

Although indices suggest that the outcome is not completely statistically reliable, we are brought to think that this inconsistency is primarily due to the scarcity of the cases compared to the number of variable included in the model. SEM practitioners (Stevens 1996) affirm that generally speaking the ratio between cases and variables should not be below 15-20. Taking in account these concerns we conclude that although statistical requirements are not entirely met, we encompass the re-specification of the model as naturally consequent to the low level of certain indices like TLI and sustain the analysis and the emerging findings. Confident that an extension of the survey is required, in the meantime, we carry on the analysis of the outcome of the model which should be reinterpreted and seen in a qualitative perspective rather than in the light of a proven robust statistical background.

## Discussion

Taking in account that the survey findings require an extension in the base of cases to probe statistically the significance of the results we carry on to the investigation about the confirmation of the hypotheses above mentioned.

In **Hp1** we pose that innovation, demand side and external push have a positive effect on the willingness to innovate the retail model toward service and conversely the other two antecedents contemplated in the model have negative regression.

The findings suggest that this hypothesis is confirmed and therefore we can also say that the sentiment of the respondents (non representative sample of Italian pharmacists) reflect a generalized point of view that it is easy to detect in the international literature thus on a worldwide base.

In the hypotheses section of this paper we have also posited that among the positive drivers of the pharmacy evolution, innovation is the strongest driver of change (**Hp2**).

Our explorative research sample gives us some clue about this expectation. The comparison among regression weights of the three antecedents (demand, innovation and external push) suggests that the strongest is the demand side factor instead of the innovation one. The impact of this latter is nearly 50% weaker than the former (from 0,41 to 0,59). The prevailing demand over the innovation element induces us to consider in the meantime the next hypothesis (see **Hp3**) which is related to the supposed fear of the pharmacists for free of charge service offered. In our view this would have brought operators to reconsider the central role of demand as strong driver for service orientation. Service deployment has direct impact on costs, if there is low confidence about the probability for payback investment, that's to say pharmacists estimate free-of-charge services, consequently the factor of demand as driver of the service orientation becomes weak compared to the others.

Looking inside dataset it emerges that the average of the respondents declares a high confidence about the willingness to pay of the patients for the services in the pharmacy. The absolute average score of question D8 (willingness to pay for service) ranks 7,5 on a 10 points scale. This, linked to the perception of trust that operators nurture about the relationship with patients, see D7 and D9, push this factor at the top of the service orientation influencer. Against any supposition the driver related to willingness to innovate and evolve the business has less strong impact. This is also confirmed by the relative willingness to put effort to improve our own business that's the pharmacy. The absolute average score of the three items detected in the innovation factor rank 7,8 on a 10 points scale. As we are talking about something that is inner to the essence of the entrepreneur, we are supposed to think that the respondents are somewhat prevented to declare a total willingness to invest; a feeling probably emerged in the last years after a generalized reduction in returns due to the liberalization of prices and the advent of unbranded drugs. These considerations bring us to disconfirm these last two theses (Hp 2 and 3) but on the other hand open up a new perspective about the potential evolution of the pharmacies to embrace service offering.

In our opinion these findings suggest an easier pathway for model evolution as, in business, confidence about market potentiality and dimension is a key driver. The lack of entrepreneurial resources is as well important but is more adaptable as the market leaves opportunity for turnover, such as renovation by incoming new owner generations or process of concentration as the development of pharmacy retail chains.

Outcome of the survey confirms that external push plays a positive influence on the attitude toward care service and that this factor is a minor one among the positive influencing factors. This means that Hp4 is confirmed. Generalizing it emerges that pharmacists, who has recognized in the NHS (National Health Service) the first "paying customer" for many years and thus the real drivers of strategic decisions, is now ready for independent choices and do not wait top down decision to

activate innovative processes. It is likely to think that recent experiences of social health budget cuts have brought pharmacists to be more autonomous from reimbursement systems.

As postulated in the hypotheses, investments and knowledge have negative influence on the service orientation as stated in Hp5, which results therefore confirmed.

Of the two antecedents we have also imagined that knowledge has a stronger regression weight than investments. Data gathered confirms this hypothesis (**Hp6**). The survey has shown that investments, especially the ones related to modernization of the premises, are dichotomous; there are pharmacies who declare that is not an issue for service deployment and other who complain about it and have no simple answer to solve it. But in general they feel that services can be implemented also in small location not higher than 50 mq. Therefore the negative regression weight does not overcome the level of 0,15 as impact on the willingness to implement services.

Not the same considerations can be extended to the other negative factor affecting services. Knowledge integration is great concern for pharmacies; the negative impact is higher than the previous one scoring near half of a point. While dispensing business is homogeneous and requires the same kind of skills or a set of skills that can be clearly identified and managed, service offering is wider and calls for many competencies. The owner of a pharmacy knows clearly that increasing levels of complexity in the business could have an exponential effect on cost rising as efficiency can be lost and organization can go out of control. For these reasons the respondent average has declared that, on a scale from 1 to 10, knowledge has a concern ranked 5.

Summing up the sentiment of the pharmacists is divergent: they feel great concerns about going to service but at same time they rely on market opportunity and are confident that they can face innovation.

These factors simultaneously are impacting the level of service orientation of the pharmacist participant to the survey. The level of explained variance in the model is 0,83 as showed in figure 6. This means that this model is able to interpret a large part of the variance in the dataset and collects the most influencing and important factors, leaving outside factors that probably could not be generalized.

The average score of the sample in terms of actual service attitude is 5,7 and thus is just under the minimum threshold we have fixed subjectively in the rank of 6 of figure 6.

This value shows clearly to the reader that the process of service offering is just started now and will require many times to see it spread and working over the majority of the 17,5 thousands of pharmacies operating in Italy. In order to try to assess in the context of this research the dynamic of implementing care services in the next period we asked the respondents to declare their perspective about future programs for service offering enrichment.

As depicted in figure 3 there is a special construct devoted to assess the pharmacist desire to deploy care services linked to dispensing activity.

This construct is composed by three observed attributes that are specular to the ones related to the construct of actual orientation. This latter is linked in the model as driver of the future one as decisions can be seen subsequent.

The coefficient of regression is 0,79 and is higher than the one calculated one-dimensionally in picture 6 that is 0,69. The difference is an indirect effect emerging from the impact and explanation caused by the 5 antecedents factors.

In terms of explained variance of this construct, the value is lower (0,68 against 0,83) than the “actual” square multiple correlation because the respondents when asked to declare a future behavior implicitly and in an un-rational manner estimate potential unpredictable future factor.

Finally the average of the absolute value for all the respondents is 7 on a ten point scale. This means that the respondents plan to put in place service offering and that this is strongly a consequence of the initiative already put in place.

## **Conclusion and direction for future research**

With no ambition to split the sample by a significant cluster analysis, we have finally tried to identify different approaches to service implementation. This supplement investigation joint to the previous consideration could help to depict a major adherent portrait of the situation.

We have selected subjectively four groups emerging from the conjoint analysis of actual and perspective attitude to service implementation as shown in figure 7. This analysis has been done starting from the absolute value recorded during the interviews.

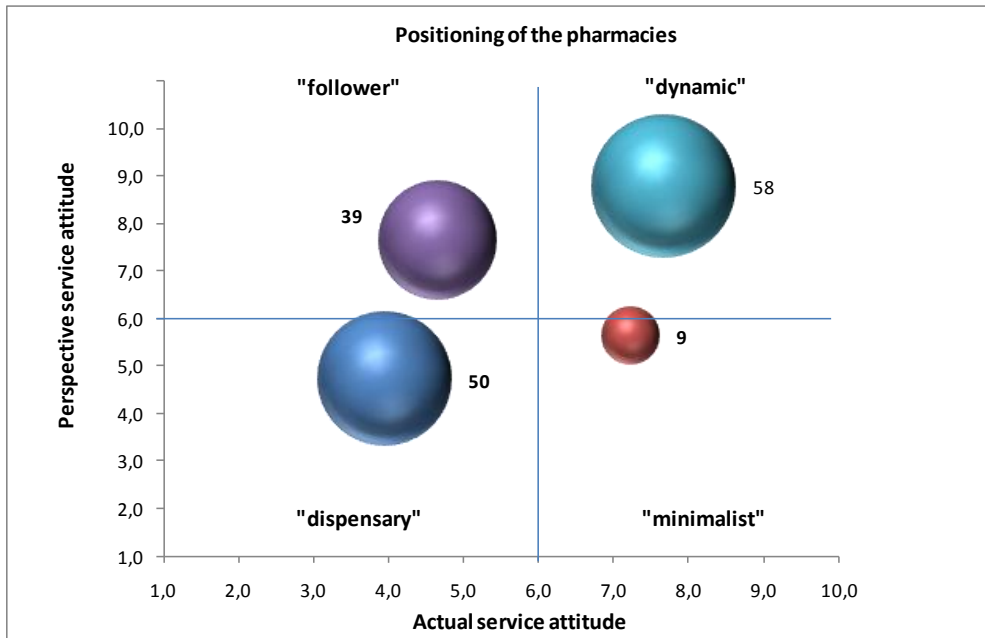


Figure 7 – Four different approaches to service orientation.

Reaffirming that the outcome of this analysis can be referred only to the sample and does not have statistical virtue to be projected on the total of 17 thousands of pharmacies operating in Italy, it emerges four different approaches to the service implementation.

First of all there is a group composed by one third of the sample who declares no relevant attitude toward service; currently or in the future. We call this group the “dispensary” as they don’t foresee any opportunity from service or they think that they can’t meet the basic standard to implement them.

Despite the positive elements that should drive toward service this group of operators remains anchored to the traditional vision of selling drugs by the medium of the counter. This means that they will suffer in the next future as the passive selling (the ones performed at the counter) are systematically reducing consequently the cut of public reimbursements.

There is another group labeled the “follower” who recognizes the importance of the service as element of model innovation but that aren’t ready to start now preferring to postpone in the future the decision to take the field operatively.

Due to the scarcity of cases in the sample we are not able to run the model on this subsample and in return investigate specific regression weight, but we can assume that the innovation driver would have no strength for this group. We advance that they are waiting for the effect of service innovation carried on by the first mover. When they will be confident that service innovation can generate enough revenue to cover costs and create profit probably they will embrace service innovation.

This is clearly the case of operators depicted by many parts of the literature (Grindrod et al. 2010, Hall e Smith 2006, Bush et al. 2006, Scahill et al. 2010) who sustain that pharmacists have no vision for the future and are blocked on old business stereotypes.

There is a third group of pharmacies who has a special position in the framework.

They declare involvement in service adoption but when they think about the future, the tenure of the declaration is weaker, meaning that they are deciding to give up with service or reduce the intensity of development.

In the sample the respondents belonging to this group are a few operators and could be interesting to know if this is something special (let's say survey related) or is a phenomena spread proportionally over the universe of 17k pharmacies.

Although it's a small group, you need to outline it because, in absence of great experience and praxis in service organization, this group can give special information about tentative and failure in evolution.

These pharmacists have put in place services but haven't seen yet any benefit; either direct or indirect (related drug revenue increase for instance). As a consequence they declare limited attraction in activation of future initiative. We call this group the "minimalist"; the ones who has done investment but in absence of evident benefits haven't anymore the strength to sustain it in the future.

Investigating in there, could be fruitful as it's pivotal to assess if these operators have really done everything effective for the success of the initiative or they have adopted services in a wrong way and therefore they haven't got the expected return.

Personal experience matured in the survey roll out and in distributive network consulting, push us to think that many of these operators may have approached service offering in a non correct way; concentrating mainly on the hard components (layout and device procurement) and paying not enough attention to the soft ones such as people committed and in charge, procedures, market promotion. etc.

Finally we have identified another group of respondents who has shown great interest in service orientation both actual and for the future. We named them as the "dynamic" as they see service as a way to move the business outside the trap of the stagnation. As the public reimbursement system is becoming more and more irrelevant, they explore new ways to serve the patient who becomes fully the true customer. In this perspective the way to assure and communicate value to product (drugs, cosmetics, nutrition, etc) is done by putting cognitive service as a way to interact with patients before the simple act to sell and dispense drugs and products. This is a dynamic idea of service which is seen as complement of the evolution of the profession.

## **Direction for future research**

The evolution toward service offering in community pharmacy has become an unstoppable process covering the entire world as we have seen in the cited literature.

The benefits are for all the participants: first of all the social community represented by citizens, patients, customers and the at large the central and local administration which is finally emanation of the community itself, but secondly the private business operators such as primarily pharmacies but the drug producers as well. Therefore if it is properly designed and implemented it will represent the typical example of win-win relation where all the parties obtain a benefit.

As we have seen, not all the operators share the same vision about it and we have to take also in account that for many of them service orientation will be not seen in the win-win perspective; that's to say that nowadays there isn't all the premises for the most successful evolution.

Generally speaking it will be pivotal to create a stable observatory to track constantly the evolution and investigate on the success stories, to obtain best practices, and on the failure ones by which to understand potential generalizing problem and therefore solution.

In the perspective of this research, future direction could be envisaged first of all in the extension of the respondent base in order to validate statistically the emerging outcome.

A robust clusterization based on the antecedent attributes could improve the weak analysis here reported as regards the four profiles approaching the service innovation.

This in depth study of the clusters will help further to reinterpret the cause-effect nexus between antecedents and consequent (actual and perspective service orientation) in the different typologies of operators examined and therefore could offer to the decision maker a road map for a more customized and thus successfully roll out of the service implementation.

## References

- Anderson J.C. and Gerbing D.W. (1988); Structural Equation Modelling in practice: A new and recommended two-step approach. *Psychological Bulletin*, 103 (may), 411-423
- Barner JC, Branvold A. (2005), Patients' willingness to pay for pharmacist-provided menopause and hormone replacement therapy consultations, *Res Soc Admin Pharm*. 2005;1(1):77-100.
- Bollen K.A. (1990), Overall fit in covariance structure models: Two types of sample size effects. *Psychological Bulletin* 107(2)
- Byrne, B.M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications and programming*. Mahwah, NJ: Erlbaum
- Bush J, Langley CA, Jesson JK, Wilson KA. (2006) Perceived barriers to the development of community pharmacy's public health function: a survey of the attitudes of directors of public health and chief pharmacists in UK primary care organisations. *Int J Pharm Pract* 2006;14(Suppl 2):B68eB69.
- Doucette W.R., Kreling D.H., Schommer J.C., Gaither C.A., Mott D.A., Pedersen C.A. (2006), Evaluation of Community Pharmacy Service Mix: Evidence From the 2004 National Pharmacist Workforce Study , *Journal of the American Pharmacists Association* 2006; 46(3):348-355.
- Dunlop J.A. e Shaw J.P. (2002), Community pharmacists' perspectives on pharmaceutical care implementation in New Zealand, *Pharm World Sci* 2002;24(6): 224-230.
- Carmines, E. G., & McIver, J. P. (1981). Analyzing models with unobservable variables. In G. W. Bohrnstedt and E. F. Borgatta (Ed.), *Social Measurement: Current Issues*, (pp. 65-115), Beverly Hills: Sage Publications.
- Churchill G. A. (1979) A Paradigm for Developing Better Measures of Marketing Constructs, *Journal of Marketing Research* Vol. XVI (February 1979). 64-73
- Feletto E., Wilson L.K., Roberts,A.S., Benrimoj S.I. (2010) Measuring organizational flexibility in community pharmacy: Building the capacity to implement cognitive pharmaceutical services, *Research in Social and Administrative Pharmacy* (2010)
- Grindrod K.A., Marra C., Colley L., Tsuyuki R.T., Lynd L., (2010) Pharmacists' Preferences for Providing Patient-Centered Services: A Discrete Choice Experiment to Guide Health Policy, *The Annals of Pharmacotherapy* 2010 October, Volume 44
- Hall J, Smith I. (2006), Barriers to medicines use reviews: comparing the views of pharmacists and PCTs. *Int J Pharm Pract* 2006;14(Suppl 2):B51eB52.
- Hughes C.M. et al. (2010) Provision of pharmaceutical care by community pharmacists: a comparison across Europe , *Pharm World Sci* (2010) 32:472-487
- Kjome RL, Granas AG, Nerhus K, Sandberg S. (2010), Quality assessment of patients' self-monitoring of blood glucose in community pharmacies. *Pharmacy Practice (Internet)* 2010 Jan-Mar; 8(1):62-69
- Kline R. B. (1998). Software programs for structural equation modelling: AMOS, EQS, and LISREL. *Journal of Psychoeducational Assessment* (16): 343-364.
- Lalonde L., Hudon E., Goudreau J., Be' langer D., Villeneuve J., Perreault S., Blais L., Lamarre D., (2010) Physician-pharmacist collaborative care in dyslipidemia management: The perception of clinicians and patients, *Research in Social and Administrative Pharmacy* (2010)
- Liu Y., Doucette W.R., Farris K.B. (Examining the development of pharmacist-physician collaboration over 3 months, *Research in Social and Administrative Pharmacy* 6 (2010) 324-333
- Montgomery A.T., Sporrang S., Manap N., Tully M.P., Lindblad A. (2010), Receiving a pharmaceutical care service compared to receiving standard pharmacy service in Sweden-How

- do patients differ with regard to perceptions of medicine use and the pharmacy encounter?, *Research in Social and Administrative Pharmacy* 6 (2010) 185–195
- Niquille A, Lattmann C, Bugnon O. (2010), Medication reviews led by community pharmacists in Switzerland: a qualitative survey to evaluate barriers and facilitators. *Pharmacy Practice (Internet)* 2010 Jan-Mar; 8(1):35-42.
- Pfleger D.E., McHattie L.W., Diack H.L., McCaig D.J., Stewart D.C. (2008) Developing consensus around the pharmaceutical public health competencies for community pharmacists in Scotland, *Pharm World Sci* (2008) 30:111–119"
- Roberts A.S., Benrimoj S.I, Chen T.F., Williams K.A., Aslani P. (2008), Practice Change in Community Pharmacy: Quantification of Facilitators, *The Annals of Pharmacotherapy* 2008 June, Volume 42 - 861-868
- Roberts, Benrimoj, Chen, Williams e Aslani (2005) Understanding practice change in community pharmacy: A qualitative study in Australia *Research in Social and Administrative Pharmacy* 1 (2005) 546–564
- Scahill S., Harrison J. e Carswell P. (2010) Describing the organisational culture of a selection of community pharmacies using a tool borrowed from social science, *Pharm World Sci* (2010) 32:73–80
- Scahill S.L., Carswell P., Harrison J. (2010), An organizational culture gap analysis in 6 New Zealand community pharmacies, *Research in Social and Administrative Pharmacy* (2010)
- Stevens, J. (1999) *Applied Multivariate Statistics for the Social Sciences*, : N.J. Lawrence Erlbaum Associates
- Taylor S., Hourihan F., Krass I., Armour C. (2009) Measuring consumer preference for models of diabetes care delivered by pharmacists. *Pharmacy Practice (Internet)* 2009 Oct-Dec;7(4):195-204
- Teinila T., Kaunisvesi K., Airaksinen M., (2010) Primary care physicians' perceptions of medication errors and error prevention in cooperation with community pharmacists, *Research in Social and Administrative Pharmacy* (2010)
- van Mil J.W.F. (2010) Finding the jewel: the case of pharmaceutical care research, presentazione al EuroPharm Forum joint Conference 2010, [www.europharmforum.org/file/14099](http://www.europharmforum.org/file/14099) ultimo accesso 20gennaio2011"
- Westerlund T., Andersson I-L e Marklund B. (2007), The quality of self-care counselling by pharmacy practitioners, supported by IT-based clinical guidelines *Pharm World Sci* (2007) 29:67–72



# APPLICATION OF CONTEMPORARY COST MANAGEMENT CONCEPT IN SERBIAN LOCAL GOVERNMENT

*Tijana Obradović, Veljko Dmitrović, Milica Latinović*  
University of Belgrade, Faculty of Organizational Sciences  
154 Jove Ilića St., Belgrade, Serbia  
Phone/fax +381 11 39 50 875, e-mail tijana@fon.rs

**Abstract:** *Faced with globalization and new business environment, along with privatization process and process of harmonization with EU, local governments in Serbia have suffered dramatic changes. Those frequent changes persuade them to look for new management tools - local governments are forced to apply new systems and information technologies and to seek for new organizational models for achieving their goals. Traditional cost accounting systems with its limited appliance are no longer able to provide adequate response to new business challenges faced by local governments. This all calls for reorganization of cost accounting too, since it ought to become the main management support in sense of defining and application of strategic plan and defining and achieving strategic goal and objectives. Although it tackles application of several contemporary cost management concepts in local government in Serbia, this paper puts special emphasis on Activity Based Costing, since it inspired other new approaches in cost management philosophy.*

**Key words:** *Cost Management, Activity Based Costing, Local Government*

## 1. INTRODUCTION

To achieve understanding of new strategic needs, for the last twenty years, there is real expansion in development of new methods and techniques in cost management area. Due to emerge of these new approaches, the quality of information is improved too, as well as government success.

This paper will particularly deal with one of contemporary managerial accounting approach to cost management of government is Activity Based Costing (ABC).

Although traditional costing system can achieve their main objectives till some extent, in contemporary economy they show many weaknesses and shortcomings. These shortcomings could be described as:

- Inaccurate costs determining
- Appliance of strict statistical standards
- Narrow focus on production phase
- Neglecting strategic aspects of business

Traditional systems are not able to provide adequate information support, cost accounting should recover strategic role of its reports.<sup>1</sup> Therefore, it is necessary that managerial

---

<sup>1</sup> Drury, C, «Management Accounting for Business Decisions», 2nd edition, International Thomson Business Press, London 2001. p. 485-507.

accounting be enabled do provide relevant information for strategic management of local government.<sup>2</sup>

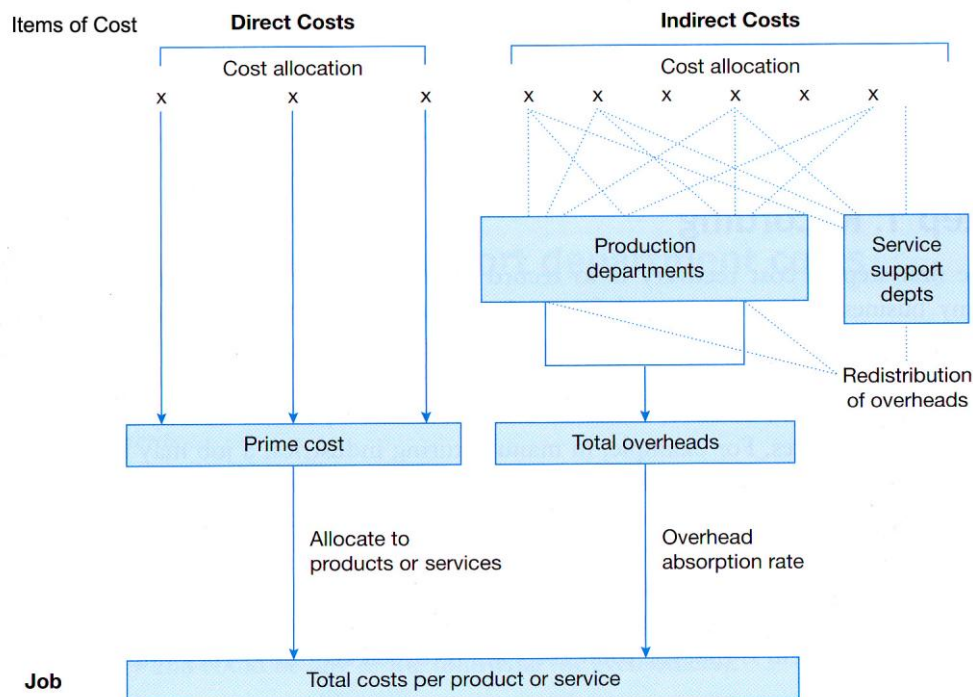
Common basis of traditional and contemporary costing methods is resource spending.

## 2. TRADITIONAL VERSUS CONTEMPORARY COSTING SYSTEM

Kew points that distinguish traditional and contemporary costing system can be summarized in next table.

TRADITIONAL COSTING SYSTEM	CONTEMPORARY COSTING SYSTEM - ABC
* Organizational parts utilize resources	* Resources cause different activities
* Organizational parts represent conceptual frame for costing	* Activities represent conceptual frame for costing
* Main principle is causing principle - the objective is to identify main and direct cost driver	* Cost are firstly transposed to activities, costs drivers are divided into those connected with activity level and those not connected with the activity level
* Analytical accounting divided costs into direct costs and indirect costs	* Direct costs can be directly transferred to cost objects * Indirect costs are allocated to activities using cost drivers

The essence of traditional costing methods is as shown on picture 1.<sup>3</sup>

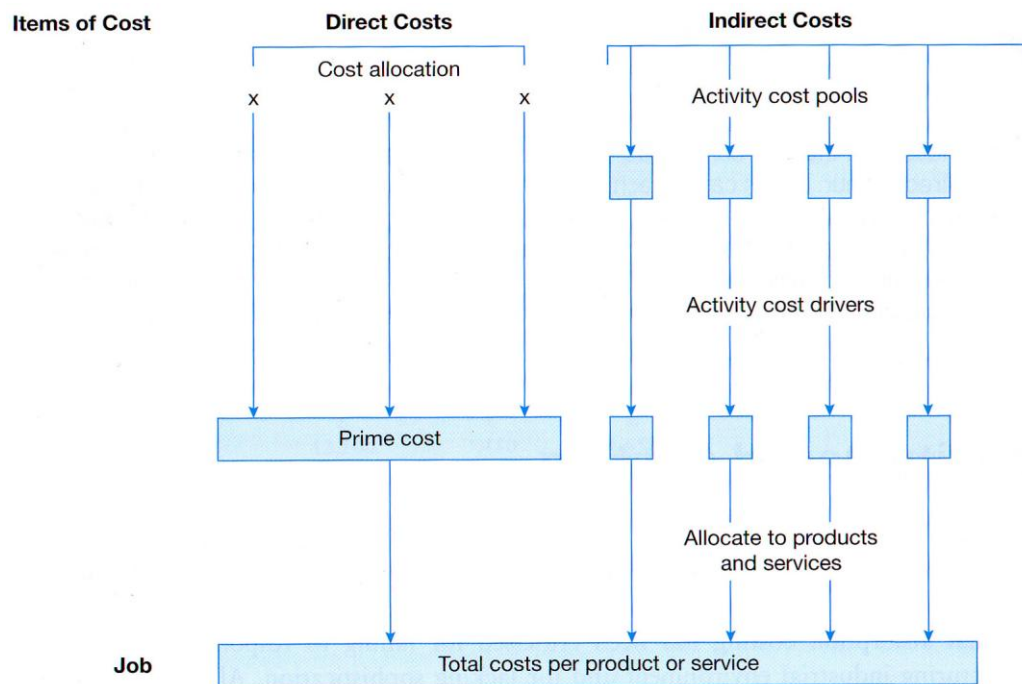


<sup>2</sup> Žarkić Joksimović, dr Nevenka, «Upravljačko računovodstvo – računovodstvo za menadžment», FON, Beograd, 1995, p. 261.

<sup>3</sup> Jones, Michael, «Accounting» 2 nd edition, Johnwiley & Sons, LTD, 2006, p. 401

Picture 1

The essence of contemporary costing methods is as shown on picture 2.<sup>4</sup>



Picture 2

### 3. PROBLEMS IN COST MANAGEMENT AND NEW CHALLENGES IN LOCAL GOVERNMENT

Information requirements in local governments are more and more complex in the era of globalized economies, fast development of new information technologies. This environment demands more efficient costing methods, since traditional methods were developed in different, stable and more predictive government setting. Today, the time for reacting to change is shorter than ever, and eventual mistakes can be catastrophic especially in local government.

All these changes force governments to turn more intensively toward new methods for effective and efficient utilization of scarce resources. There are new managerial methods and techniques emerged like Total Quality Management TQM, Target Cost Management TCM, Activity Based Management ABM, Activity Based Costing ABC, Just In Time JIT, Benchmarking, Continuous Improvements etc. that places new challenges in sense of their applicability in local government.

The greatest challenge facing cost accounting today are huge changes in internal and external environment that caused changes in cost structure of some cost categories and changes in cost behavior.

Local governments have to invest in new information technology, this relates to increasing number of activities necessary to run them, and this involves increase in overheads. Last

<sup>4</sup> Ibid, p. 408

decades are responsible for changes in some cost categories behavior, which causes increase in the level of fixed costs in shorter period of time.

When take all together, it can be concluded that in modern local government one of priorities must be more careful management of overheads. Thos means that they have to find the way for cost cutting and their more precise allocation.

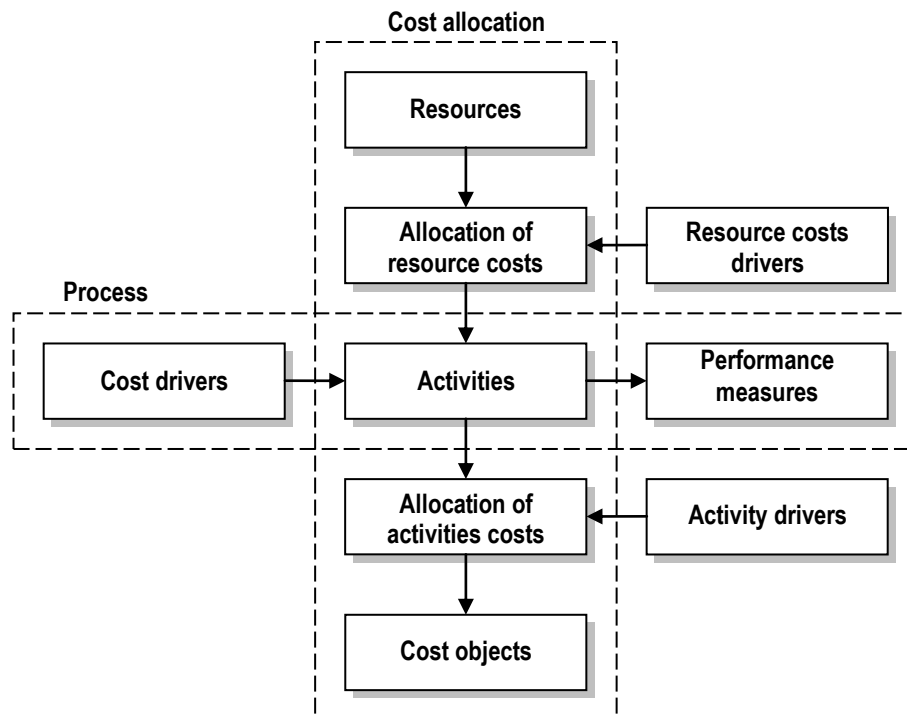
Growing importance of strategic needs of local government resulted with the fact that cost accounting should expand its horizon and accept new challenges in order to produce information for strategic management.

#### 4. ACTIVITY BASED COSTING (ABC)

Activity based costing is modern instrument for managing by detail analysis and evaluation of activities. It provides adequate and objective information for strategic decision making. The bases for the method are different activities performing in organizational parts. It is a process of cost allocation through two phases.

In the first phase overheads are allocated into activities using cost drivers. In the second phase, costs are allocated to cost objects using activity drivers. Earlier costing systems could not provide information about costs and performances of separate activities. ABC methods gives answer to questions such as how much time does it take to perform key activities and what are the main factors that have impact on time increase.

ABC model can be illustrated like in picture 3:<sup>5</sup>



<sup>5</sup> Turney, P. Activity Based Costing: The Performance Breakthrough, Kogan Page Limited, London, P. 96.

### Picture 3

Resources are sources of costs caused by activity.<sup>6</sup>

Activities represent every repeated action, movement or job sequence performed in order to complete business function.<sup>7</sup>

ABC model is set up to provide numerous information regarding costs of activities. Those information can be helpful in answering several questions, such as:

- Which activities require most resources?
- What types of resources are necessary for performing these activities?
- Is there possibility for cost reducing, and where?
- What activities cause high costs?
- What are the possibilities for further development and cost reduction?
- What are the possibilities for moving focus from inefficient to more efficient activities?

Cost objects are final point for activity costs to be transferred. However, they are starting point for defining necessary activities.

Resource cost drivers are the basis for cost allocation on activities. For example, resource cost driver for costs of computer usage are hours.

Activity driver is unit of efficiency that enables cost allocation onto products or services, for example, activity driver for preparation activity is hours of preparation.<sup>8</sup>

Process represents serial of activities connected around the same goal.<sup>9</sup> Each activity in the chain should be looked as supplier – consumer relationship. Each activity is consumer for another activity, and at the same time, has its own suppliers. If, in each part of chain, supplier seeks to fulfill the needs of its consumer, satisfaction of final consumer – external clients is assured.

Cost drivers represent factors that determine work and effort necessary for performing activity. They give answer to questions:

- Why is this activity performing?
- How much effort is needed for getting job done?

Performance measures represent work done and the results of each activity performed. They give answer to question:

- How successful was activity?
- Till what extent do activity meet needs of internal and external clients?

Measures are:

- Activity efficiency

---

<sup>6</sup> Burch, J, «Cost and Management Accounting – A Modern Approach» West Publishing Co, Saint Paul, 1994. P. 447.

<sup>7</sup> Rainborn, C, and Kiney, M, «Managerial Accounting» West Publishing Company, Saint Paul, 1996, P. 195

<sup>8</sup> Novičević, B, ibid p. 213.

<sup>9</sup> Antić, Lj. «Upravljanje preduzećem zasnovano na aktivnostima», 36. simpozijum, SRRS, Zlatibor, 2005. p 137.

- Time necessary for conducting activity
- Quality of work done

This all provides answers to following questions:  
What events

Putem horizontalne dimenzije ABC modela, na osnovu informacija o troškovima i nefinansijskim informacijama mogu se dati odgovori na sledeća pitanja:

- Koji događaji pokreću obavljanje aktivnosti?
- Koji faktori imaju negativan uticaj na obavljanje aktivnosti?
- Koliko efikasno, brzo i kvalitetno se posao obavlja?

## 5. PRACTICAL IMPORTANCE OF ABC

The conceptual frameworks for Activity Based Costing are actually business activities, which represent set of homogenous tasks regarding process of value creation. Business activities are conceptual framework for costing system. Activity Based Costing assumes that cost objects initiate activities (spend activities), and activities spend resources and cause costs. In contemporary local government, too, there are numerous and complex activities, therefore their harmonization is necessary as well.

Activity Based Costing, as well as, traditional costing systems, allocates overheads through two global phases: allocation phase, and reallocation phase. True difference lies in phase of allocation primary costs for organization as a whole, by type, onto narrow organizational parts – places of costs, when using conventional costing methods, and on previously harmonized activities, when using Activity Based Costing. Causality principle is relevant in both cases, except that Activity Based Costing use resources as causes.<sup>10</sup>

Activity Based Costing recognizes that most resources today is not used in production, but in performing spectrum of (supporting) activities. Therefore, main objective of Activity Based Costing is not arbitrary allocation of overheads, but their measurement on the activity level and finally to the product or service level.<sup>11</sup>

Costing process, using ABC, has four phases:<sup>12</sup>

1. Identification and allocation of cost to activities that spend resources of organization. One should be careful that benefits of information about costs of activities are bigger than the costs of gathering those information, cost-benefit analysis should be done.
2. Identification of cost causes for each activity that spends resources of organization. The more complex the process, the more causes of costs, and vice versa.
3. Identification of cost activity rate by cost cause.
4. Allocation of costs onto products and services, by multiplying cost rate with number of cost causes.

<sup>10</sup> Malinić, prof. dr Slobodan, «Upravljačko računovodstvo i obračun troškova i učinaka», Ekonomski fakultet, Kragujevac, 2005. p 322, 323

<sup>11</sup> Milićević, V, «Strategijsko upravljačko računovodstvo», Ekonomski fakultet, Beograd, 2003. p 208.

<sup>12</sup> Kaplan, R, Atkinson, A, «Advanced Management Accounting» Prentice Hall Inc, New Jersey, 1998. P. 97.

## **6. STRATEGIC APPLIANCE AND IMPLICATIONS OF ABC SYSTEM**

Modern local governments of high performances can use ABC information in order to improve strategic management. ABC enables them to provide more precise information and therefore to shape strategies and develop long-term plans.

For local government, it is important to use ABC so they can, from the beginning, value their value creating activities over and over. They need to develop a plan for improvement of activities that add value, plan for correction or elimination of activities that do not create value. ABC enables them to do that.

Additionally, some costs could be reduced by greater efficiency in performing value adding activities. ABC system helps in finding ways for reduction of costs related to activities that do not create value. It can be done through time cut, continuous quality improvement, elimination of time waste, introduction of modern information technology etc.

ABC information can provide local governments with precise projection of requirements that each service puts regarding needed resources.<sup>13</sup> This information can be reliable base useful for local governments when they need to estimate precisely long-term needs for limited resources of each activity.

Although ABC is several decades old, its implementation in local government is not on desired level, yet. Its true appliance will not be possible until local governments form team of different professionals that will participate in identifying activities that cause costs.

## **7. CONCLUSION**

Frequent changes force local governments in Serbia to look for new ways and new management tools. Traditional costing systems are designed for relatively stable environment, and they cannot fulfill needs of today local government.

Although, there are numerous concept of information support to cost management, this paper focuses on Activity Based Costing model. Model provides information about costs of individual activities and nonfinancial information about activities necessary for efficient local government. Activity Based Costing is continuous process that is never ended.

Activity Based Costing inspired more other models and tools; with its affirmation, the idea of its usage for management of organizational objectives ABCM (Activity Based Cost Management) was born.

In today economy, characterized by globalization, fast changes and high demands, successful local government involves lots of knowledge, skills, abilities, competencies, and adequate informational support. The reality can be described as discord between rich information potentials offered by cost accounting and the need of organization to use these resources. This is a time for change. Therefore, traditional systems should be replaced with contemporary ones.

---

<sup>13</sup> Mitchell, J, F, «A Review of Activity Based Costing» Practice» in Management Accounting Handbook, ed. By Drury, C, p. 67.

## Literature

1. Athinson, Anthony A; Banker, Rajiv D; Kaplan, Robert S, "Management Accounting" Prentice Hall, 1995.
2. Burch, J, «Cost and Management Accounting – A Modern Approach» West Publishing Co, Saint Paul, 1994.
3. Antić, Lj. «Upravljanje preduzećem zasnovano na aktivnostima», 36. simpozijum, SRRS, Zlatibor, 2005.
4. Cooper, R. and Caplan, R. Measure Cost Right: Make the Right Decisions, Harvard Business Review (September/October 1998).
5. Cooper, R, Kaplan, R, «Profit Priorities from Activity – Based Costing» Harvard Business Review, May-June, 1991.
6. Drury, Colin "Management Accounting for Business Decisions, Second Edition, Thomson, Learning, 2001.
7. Robert W. Ingram; Abbright, Thomas L; Hill, John W, "Managerial Accounting" Information for Decisions, 3E, South-Western, Thompson Learning, Canada, 2003.
8. Kaplan, R, Atkinson, A, «Advanced Management Accounting» Prentice Hall Inc, New Jersey, 1998.
9. Krasulja, D. «Poslovne finansije», Ekonomski fakultet, Beograd, 1989, str. 255.
10. Lounderback, Joseph G. III, Holmen, Jay S. "Managerial Accounting" Thomson, South Western, 10th edition, USA, 2003.g. (Activity Based Costing Approach)
11. Milićević, V, «Strategijsko upravljačko računovodstvo», Ekonomski fakultet, Beograd, 2003.
12. Mitchell, J, F, «A Review of Activity Based Costing» Practice» in Management Accounting Handbook, ed. By Drury, C, p. 67.
13. Novićević, B, «Obračun troškova po aktivnostima uslov i pretpostavka upravljanja preduzećem», monografija, «Efikasnost transformacije preduzeća, Ekonomski fakultet, Niš, 1998.
14. Rainborn, C, and Kiney, M, «Managerial Accounting» West Publishing Company, Saint Paul, 1996.
15. Turney, P, Activity Based Costing: The Performance Break Through, Kogan Page Limited, London, 1997,
16. Weetman, Pauline, "Financial and Management Accounting" An Introduction, Second Edition, Preutice Vall England, 1999.



17. Žarkić-Joksimović, N, «Upravljačko računovodstvo», FON, Beograd, 2005.

**Pierluigi Passaro**

Università di Bari - Brin

[pierluigi23@gmail.com](mailto:pierluigi23@gmail.com)

**Roberto Carella**

e-Business Ph.D. Università di Bari - Brin

[robertocarella@gmail.com](mailto:robertocarella@gmail.com)

**Lucia Russo**

Politecnico di Bari sede di Foggia

[luciarusso.89@gmail.com](mailto:luciarusso.89@gmail.com)

**Abstract**

**The management of a projec for the services quality improvement in the tourism sector**

**-The Emas/Ecolabel certification of a touristic structure in South Italy-**

**Keyword: quality, tourism, services, project management**

The environment politics has assumed in the last times a wide and transversal dimension, focused on problems and relations of a complex system such as the environment, in the whose inner different elements act and put equity and disequity problems. With the new strategy, the European Community means to pursue the integration of environmental sustainability goals (Goteborg Agenda) with those of the economic and social development (Lisbon Agenda), the environmental politics integrate therefore substantially to the problems of social-economic development. The adoption of systems of eco-management from a relevant number of companies even in the touristic sector and their certification in conformity with international and european standards represent an important innovation element, following to this strategy inclined to conjugate the development with the protection of the environment. The systems of environmental management have by now become a distintive element of the companies which aim to cover a relevant role in the competitive national

and international scenery, even because their nature itself makes them verifiable from third independent subjects and suitable to stimulate the continuous improvement of environmental and productive performances. Object of the present work is the analysis of the project management for the improvement of the quality of services in the tourism sector which allows to obtain the Emas/Ecolabel certification in a touristic structure in South Italy.

## **Scenery**

The expressly declared goal of the programme of economical reforms, which was approved in Lisbon by the Chiefs of State and of Government of the European Community in 2000 was that of making the Community *the most competitive and dynamic economy of knowledge within 2010*. The document on the basis of the Lisbon Strategy sweeps through all the fields of economical politics such as innovation and company activity, welfare reform and social inclusion, human capital and work requalification, equal opportunities for the female work, liberalization of the markets of work and products and at last the sustainable development. Besides to conclude the course which had seen in 2005 the reexamination of the European Strategy for the sustainable development of 2001, and on the basis of the consultations occurred with the other communitarian organs and other stakeholders, the European Council had adopted, on June 16th 2006, a new European strategy for the sustainable development (Goteborg Agenda), for a widened European Community. The strategy underlines and strengthens the commitment and the necessity of cooperation which the EC will have to face, in consideration of the impact of the new countries on the global sustainable development. The adoption of such a strategy represents an act of great relevance, because the European Community puts itself the ambitious purpose of integrating the goals of environmental sustainability with those of economical and social development which on the other hand characterize the other communitarian priority strategy for the next years, the Lisbon Agenda (defined as “motor of a more dynamic economy”). The new Goteborg strategy lists seven challenger and related targets and actions: climatic change and energy, sustainable transports, production and sustainable consumptions, preservation and management of natural resources, public health; social inclusion, demography and immigration, global poverty and challenges of the global sustainable development, production and sustainable consumptions. A fundamental role in support of the diffusion and the achievement of the strategy goals is assigned to the formation, to the greatest investment in research and development, to the Local Agenda 21, to information and communication with citizens.

## **Ecolabel**

In the area of the necessari requalification of touristic-receptive sector, the environmental quality and the communication of one's commitment for the resources safeguard have to be included as new elements of competitività among the organizations. The diffusion of numerous initiatives of ecological brands, turned to indicate on the market the receptive and more respectful of the environment structures, is a clear testimony of it, by giving to the operators the opportunità of conjugating the environmental commitment with the marketing goals and of image enhancement of its own service. On April 14<sup>th</sup> 2003, with the Decision 2003/287/CE the European Commission has officially extended the applicability of the brand Ecolabel to the services of touristic receptivity. On the basis of the iniziativa there is the aim of encouraging the structures as well as the same tourists to the respect of the environment and to the saving of natural resources. The art. 2 of Decision 2003/287/CE defines the service of touristic receptivity as "the fee-paying allocation of the overnight stay service in receptive structures gifted of adequately equipped rooms with at least one bed, offered as principal activity to tourists, travellers and guests. The overnight starvice can include the allocation of services of restaurant, fitness activity and/or green spaces". In the service of touristic receptivity different typologies of receptive structures are included, among which hotels, mountain refuges etc, with the exclusion of the camping grounds which form part of the category "services for camping grounds". The Ecolabel is the European brand of ecological quality, one of the concrete actions of declining the Lisbon Strategy to develop products and services with reduced environmental impact in its entire lifetime. It is a voluntary, selective device, spreading on a European scale, whose brand can be requested by the firms producing goods and services suppliers, by the wholesale and retail sellers of products and services which use its own brand and by the importers. In December 2010, 24 product categories and 2 services categories prove to be labelling with the exclusion of foodstuffs, beverages, pharmaceutical goods, dangerous products and preparations, products prepared with processes which can hurt to man or to environment.

## **Criteria**

The Decision of July 9th 2009 (2009/573/CE) establishes the criteria for the assignment of the brand of ecological quality to the service of touristic receptivity. The criteria come into force since May 1° 2003.

The criteria are divided in two sections:

- compulsory (for a total of 29)
- optional (for a total of 61)

All the 29 compulsory criteria have to be respected “if applicable”. This means “if not requested by the law”, for some criteria, or in consideration of the specific situation of the receptive structure.

The 61 optional criteria give the petitioner a range of criteria in which to choose those for the achievement of the requested minimum score for obtaining European Ecolabel. The minimum requested score to get the Ecolabel is 16,5 points for those structures which don't offer additional services in regard to the overnight stay service. The requested score rises in one point for each additional offered service which is under the direct control or ownership of the manager or of the owner of the touristic receptivity service.

The criteria aim to limit the principal environmental impacts connected with the three steps of service lifetime: purchase, service allocation, rubbish production. Particularly, their goal is of limiting the energetic consumption, limiting the hydric consumption, limiting the waste production, supporting the use of renewable sources and substances which result less dangerous for the environment, promoting the communication and the environmental education. For each criterion specific verification and evaluation requirements are provided. The documentation certifies the conformity to the criteria and, depending on the cases, it can concern directly the applicant or his own suppliers. It deals with: declarations, analysis, proof relationships etc, if necessari the applicant can even present a documentation which is different to that shown for each criterion, as long as it is considered equivalent by the Competing Organ which examines the application.

## **Project Case**

The project case, subject of the present work, regards the management of a project for the verification of the correspondence of the requirements of products/services of a receptive structure, in South Italy situated, to the Ecolabel criteria, with the goal of the brand achievement. The activities to get to the draft of the documentation attesting the conformità of the Relais farm to the Ecolabel criteria converge all of them to the reading and full knowledge of what was written in the

Commissione Decisione. In it, in fact, are explicated the criteria to respect and the ways with which the criteria divide themselves in compulsory and optional. For each criterion, it is necessary to verify if it is applicable or if it results to be satisfied or not. The verification will consist in empirical proofs, handbooks consultations, attestations enclosures, etc. The dividing of the project in smaller parts according to a tree structure and the methodology typical of the Project Management, according to the PMBOK will allow us to follow step by step the procedure of the certification process.

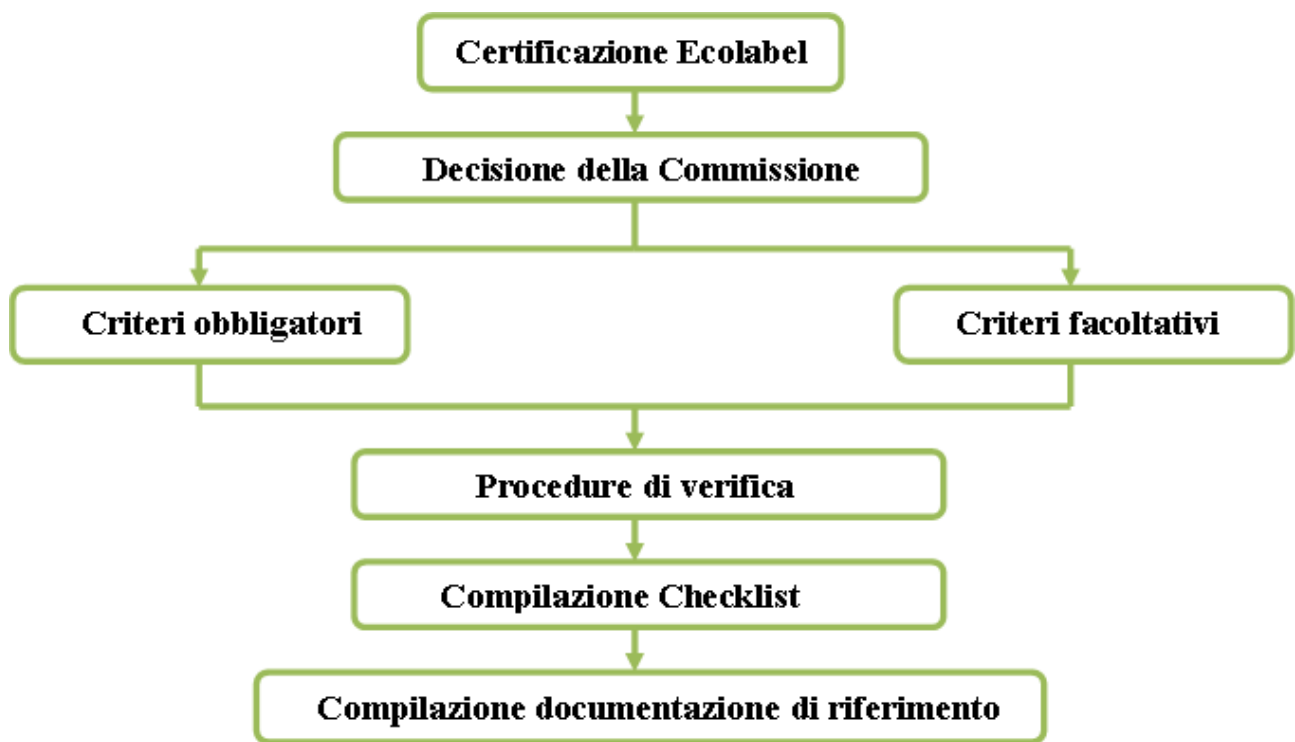


Fig. 1 Work Breakdown Structure of the Project

After verifying which criteria are applicable and satisfying, from the structure one will go on to the checklist compilation. The ticking off of checklist elements is the simplest and surest method to finish the verify activity which includes many steps and which requires particular attention. The checklist is a document for the “procedural verify” of the process itself. It has been organized, considering the single criteria and the actions to undertake to adapt to it. For each of these actions, therefore, are proposed specific verify questions of the products and/or services characteristics which, directly interacting with the environment, can consequently determine the efficacy of the criterion. The possible answers for the compulsory criteria are:

<b>satisfying criterion</b>	(C.S.)
-----------------------------	--------

<b>not satisfying criterion</b>	(C.n.S.)
<b>criterion to value</b>	(C.d.V.)
<b>not applicable criterion</b>	(C.n.A.)

Tab.1 compulsory criteria

In case the considered requirements are not positively checked, a possible solution is proposed, in support of the planning of modifications which are necessary (in the column: *what to do to conform to the criterion*), for the optional criteria the possible answers will consist of assigning a score to the criterion or of defining it as valuable criterion. Following up, we are reporting the ecological criteria and the requested ways for the verify contained in the Decision n. 287 of Aprile 14th 2003, to which it is necessary anyway to refer for the Ecolabel application. We will also define if the criterion is satisfied, not satisfied or not applicable.

<b>Criterion n.</b> Ecological Criterion to respect	It deals with a faithful reproduction of the Decision text, with some exemplification aimed to a better clarity and immediacy of the criterion
<b>Criterion verify</b>	Documentation to present to show the observance of the Ecological Criterion.
<b>Notes &amp; comments</b>	Notes and comments which ease the understanding or suggest ways of adaptation to the criterion.

Tab.2 ecological criteria

Note: in the criteria description the term tree or receptive structure is used with no difference. We remember that the Ecolable is applicable to the receptive service

Compulsory criterion Nr	CS	Cns	CdV	CnA	Observations	What to do to conform to the criterion
1. Electric power from renewable sources		X			At the moment under contract with Sorgenia.	The receptive structure has to purchase at least 50% of electric power from renewable sources. At the moment the criterion results to be <u>unsatisfied</u> as the supply contract does not include any certificate about the renewable origin of the supplied power .
2. Carbon and heavy combustible oils				X		<b>To enclose:</b> Declaration of the owner of not applicability of the criterion.
3. Yield and generation of warmth		X			Existence of 4 three stars steams. The unities of existing cogeneration must respond to the performance definition of directive 2004/8/CE. The steams which are not included in the directive 92/42/CEE must conform to the manufacturer's instructions and to the national and local legislation as regards energetic yield and they are acceptable only if they present a minimum performance of 88% (with the exclusion of biomass steams)	From the verification of steams performance and from control and maintenance relations, released by the technician, one can deduce a minimum yield higher than 88%. <b>To enclose:</b> - Installation booklets; - Steams' proof relations - Declaration of the steams maintenance responsible.
4. Conditioning system				X	Not disposed to the purchase of new conditioning systems	<b>To enclose:</b> Owner's declaration of not applicability of the criterion
5. Energetic efficiency of the				X		<b>To enclose:</b> Owner's declaration of



					ambientale si invitano l'ospite a richiedere il cambio asciugamani e lenzuola secondo le modalità descritte nella politica ambientale.	
15. Corretto smaltimento delle acque di scarico	X				E' stata predisposta una lettera al Comune di Cisternino per richiedere il piano di trattamento delle acque reflue urbane e si occuperà dell'identificazione e di tutte le sostanze che non devono essere smaltite con le acque di scarico ai sensi della direttiva 2006/118/CE.	<b>Allegare:</b> -Dichiarazione del proprietario di conformità al criterio - Informativa all'ospite sull'uso corretto degli scarichi..
16. Disinfettanti	X				E' stato stilato un catasto di tutti i detersivi, i disinfettanti e le sostanze pericolose utilizzati presso la struttura ricettiva ed è stato predisposto un registro di carico e scarico di questi prodotti.	<b>Allegare:</b> -Dichiarazione del proprietario di conformità al criterio - Registro carico-scarico disinfettanti - Schede tecniche disinfettanti.
17. Raccolta differenziata dei rifiuti da parte degli ospiti		X			La struttura non dispone di contenitori per la raccolta differenziata da parte degli ospiti. Verificare la tipologia di differenziazione dei rifiuti da parte del comune.	<b>Allegare:</b> -Dichiarazione del proprietario... -Piano di gestione rifiuti rivolto agli ospiti
18. Raccolta differenziata dei rifiuti		X			Attualmente non viene effettuata alcuna raccolta differenziata dei rifiuti	<b>Allegare:</b> -Dichiarazione del proprietario.... -Richiesta piano gestione rifiuti;

Optional criterion Nr°	Points	Observations	What to do to conform to the criterion
30. Electric power generation from renewable sources			
31. Energy from renewable power sources			
32. Steams' energetic performance			
33. Steams' Nox emissions			
34. Teleheating			
35. Thermic and electric power cogeneration			
36. Heating pump			
37. Heating recycling			
38. Thermoregulation	1,5		
39. Audit of energetic performance of the buildings			
40. Conditioning installation			
41. Authomatic switching off of heating installation			
41. Bioclimatic architecture	3	Built accordino to rules of bioclimatic architecture	
42. Fridges, ovens, dish washers, washing machines, clothers dryer and office equipment with low enrgetic consumption	1	The pcs are energy star	
43. Towels and hair dryers players with proximity sensor			

44. Fridges' positioning	1	Fridges are far away from heating sources	
45. Authomatic switching off of the rooms' lights			
46. Sauna timer control	1	Sauna is equipped with timer	
47. Pools' heating with renewable power sources			
48. Authomatic switching off of external lights	1,5	External lights timer	
49. Use of rain water and recycled water	2	Rain water is gathered in basins and used for the irrigation	
50. Authomatic irrigation systems for external areas	1,5	Timer for irrigation	
51. Water flow from taps and showers	1.5		
52. WC's dumping	1,5	The WC consumes less than 6 l/minute	
53. Consumption of dish washers' water			
54. Consumption of washing machines' water			
55. Temperature and taps' water flow	1		
56. Timer for showers			
57. Pool's coverage			
58. Antifreeze			
59. Indication of water hardness			
Urinator with hydric saving			
Autochthonous species used for new external plantations			
60. Detergents			
Paints for the inside and the outside			

61. Support to alternatives to artificial firelighters for barbecue			
Dosage for pools' disinfectant or natural / ecological pools			
62. Mechanical cleaning	1	The structure uses microfibre clothes for cleaning	
63. Biological gardens and orchards			
64. Insecticides and repellents			
65. Composing	1	The structure makes the composing from green "sfalci"	
66. Containers for disposable beverages	2	Beverages in disposable containers are not sold	
67. Fat and oil removal			
68. Movable clothes and other used products			
69. Roofs			
70. Environmental communication and education	3	The receptive structure does not guarantee the environmental communication and education of the guests through notices about the local biodiversity, the landscape, etc.	
71. No smoking in the common areas and in rooms	1,5	To adequate the no smoking warnings, already present, to make them more visible and distinctive	
72. Bicycles	1,5	The structure declares to have bicycles at the guests' disposal	
73. Transfer service			

74. Reusable or returnable bottles	1	The water bottles have to be returned.	
75. Recycling products' use	1	The structure uses rechargeable ink toners	
76. Paper products	1	The structure uses printing paper with Ecolabel brand	
77. Lasting goods			
78. Local foodstuffs	3	The structure declare to use local foodstuffs. To verify which of them.	To indicate the products with local origin which are offered during lunch and/or breakfast in the receptive structure; to prove that they are of local origin and are not out of season;
79. Biological foodstuffs			
80. Air qualità in the inside			
81. EMAS registration of ISO 14001 certification of the receptive structure			
82. EMAS registration or ISO 14001 certification of the suppliers	1	The detergents firm is certificated ISO 14001	
83. Conformity of subsuppliers to the compulsory criteria			
84. Meters for power and water consumption			
85. Other environmental actions			

Tab. 7.2: Checklist compulsory criteria

## Conclusions

In the area of the necessary requalification of the touristic-receptive sector, the environmental quality and the communication of one's own commitment for the resources safeguard have to be considered as new elements of touristic competitiveness.

The spread of numerous initiatives of ecological brands, turned to indicate on the market the receptive structures which are more respectful of the environment is a clear testimony of it, by giving the opportunity to the operators to conjugate the environmental commitment with the marketing goals and of enhancement of the value of one's own service image. This work has showed up the picture of the acquisition of this awareness from a touristic receptive structure in South Italy, region of ex target one where a convergence strategy is in progress towards the most developed regions of the European Union. The work of Project Work has showed the structure conformity to the compulsory criteria and to the optional ones, chosen through self-declarations of the applicant subject, declarations and certifications released by the suppliers or by third parts and other supporting documentation. At the moment of the writing of this work, the receptive structure has not yet finished the certification and therefore has not yet obtained the Ecolabel brand. To obtain the brand, it will be necessary to proceed to inspections from the Competing Organ. The applicant will therefore fill in the provided compilation form, will enclose the issue and will send the whole to the Competing Organ – the Ecoaudit Ecolabel Committee. APAT examines the documentation, requiring possible integrations and will carry out, if considered opportune, one or more inspections by the applicant structure. If the request has positive result, the Committee will assign to the applicant, with validity on the whole European territory, the Ecolabel brand. The name of the structure will be then included in the communitarian on-line catalogue of Ecolabel products/services. The structure has the intention of following this procedure and of obtaining the brand.

## References

Aa. Vv., *Sviluppo Sostenibile, Tutela dell'Ambiente e della Salute Umana*, Morlacchi Editore

Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto, *Ecolabel Europeo per il servizio di ricettività turistica*

Antonello E. Bove, *Project management: la metodologia dei 12 step*, 1<sup>a</sup> ediz., Hoepli Editore, 2008.

Decisione della Commissione Europea del 9 Luglio 2009 (2009/573/CE) : *Criteri per l'assegnazione del marchio ecologico europeo al servizio di ricettività turistica*

*Guida blu 2005*, Touring Editore, 2005

Harold Kerzner, *Project management. Pianificazione, scheduling e controllo dei progetti*, 1ª ediz. (8ª ediz. inglese), Hoepli, 2005

ISIPM - A cura di E.Mastrofini e E.Rambaldi, *Guida alla Certificazione Base di Project Management*, 1ª ediz., Franco Angeli, 2008

Lucio Bianco, Massimiliano Caramia, *Metodi quantitativi per il project management*, 1ª ediz., Alpha Test, 2006

Marion E. Haynes, *Project management: dall'idea all'attuazione. Una guida pratica per il successo*, 7ª ediz., Franco Angeli, 2004

Project Management Institute, *Guida Al Project Management Body of Knowledge*, 3ª ediz., Project Management Institute, 2003

Russel D. Archibald, *Project Management - La gestione di Progetti e programmi complessi*, 3ª ediz., Franco Angeli, 2004

Sebastian Nokes, Sean Kelly, *Il project management: tecniche e processi*, 2ª ediz., Pearson Education Italia, 2008

# **AN IN-DEPTH STUDY OF PUBLIC ADMINISTRATIONS: THE SHIFT FROM CITIZEN RELATIONSHIP MANAGEMENT TO STAKEHOLDER RELATIONSHIP GOVERNANCE**

**Marco Pellicano**

University of Salerno, pellicano@unisa.it

**Maria V. Ciasullo**

University of Salerno, mciasullo@unisa.it

**Giulia Monetta**

University of Salerno, gmonetta@unisa.it

**Maureen Galvin**

University of Salerno, mgalvin@unisa.it

## **Abstract**

Governance is a widely used term charged with often conflicting meanings.

The object of our paper relates to the concept of public governance in a stakeholder relationship governance perspective, aimed at creating consensus in decision making processes. In effect, the legitimising of public decision making authorities consists not in the exercise of top down powers concretized in formal instruments and mandatory consequences, but rather, in creating conditions that involve stakeholders more fully, encouraging them to take an active role in public decision making processes.

The paper also examines the trend in “relational” terms of features characterizing the Public Administrations both from a theoretical and empirical point of view.

From the empirical perspective, the research concerns local Public Administrations (Regional, Provincial and Local Authorities).

On the basis of the constructs underpinning the theoretical analysis, the diverse modalities of interaction between the relative parties (Institutions and stakeholders) will be examined, taking into account: specific actions and tools utilized. The analysis will examine furthermore, the category of stakeholders involved (citizens, businesses, etc.).

Finally, the paper attempts to underline the innovative shift from a Citizen Relationship Management perspective to that of Stakeholder Relationship Governance and the potential implications for further research.

**Keywords:** Public Governance; Stakeholders communication; Involvement; Decision-making processes.

## **1. Introduction**

Knowledge, logically, does not end with consumption, but rather the more it is shared the more it increases in value. The constant exchange of ideas, knowledge and information produces a form of "cooperative intelligence" which consistently increases socio-economic value. In addition, the support provided by ICT, through virtual relationships, enables a process of widespread communication that efficiently and effectively stimulates business and government in the creation of value (Camussone, 2000).



If in the private sector, exchanging information and managing client relationships is defined as *Customer Relationship Management* (CRM) (Payne and Frow, 2005; Reinartz *et al.*, 2004; Parvatiyar and Sheth, 2001), in the public sector this approach is called *Citizen Relationship Management* (CRM). The difference between the two concepts lies mainly in their purpose (Schael *et al.*, 2003). Both are based on creating and adding value through the ability to interact with customers; for the customer (in the public sector also a citizen) it is both the ideation and implementation phase of public services (Farinet and Ploncher, 2002). However, while the ultimate goal of CRM in the private sector is to increase profitability and competitiveness, that of CRM in the public sector is to optimize the functions of protection and satisfaction of individual and collective needs.

Consequently, even in the public sector, the culture of relational development is spreading in the context of public action. In this new perspective, the citizens and stakeholders demanding satisfaction of their expectations, should not be regarded as passive recipients of public choices. Citizen and stakeholder participation in public decision making (ideas, information, etc.) should be perceived by public administrations as a strategic resource to facilitate understanding of target needs and therefore, to meet them in the most effective way (Ballabeni and Forghieri, 2004). In order to develop a culture of care and attention it is essential that the public administrations recognize the active role of stakeholders. In other words, public governance should be designed to encourage relationships and the involvement of all stakeholders in decision-making processes, going beyond the view of limited participation (i.e. only for electoral support; Tivelli, 2003).

## **2. AIM AND STRUCTURE OF THE PAPER**

Based on the above considerations, the purpose of this study is to measure and determine the level of application of a relational approach on the part of public administrations. As a preliminary step, the attention of the public administrations in terms of citizen satisfaction and related forms of communication was verified. In particular, actions taken by local public administrations to enhance the exchange of knowledge and information and to establish collaborative stakeholder relationships were assessed.

The paper, structured in two parts, deals in the first section with the issue from a purely theoretical perspective, starting with an overview of the literature in which relative analyses and critical thinking on a national and international scale are illustrated. Then, from an empirical survey in the second part of the paper the findings are reported with regard to the prevalence and scope of CRM methodology and conversely the relational approach "extended" to all stakeholders in terms of their participation and involvement in public decision-making processes.

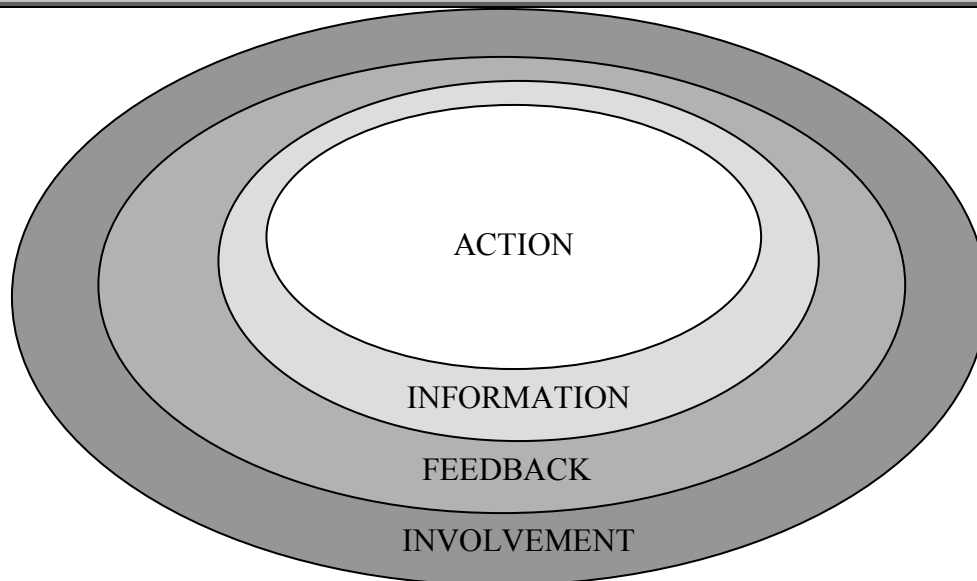
Finally, on the basis of data gathered and results obtained, summary of the research and preliminary conclusions is presented that compares findings with the results of the theoretical analysis and underlines potential implications for future research.

## **3. FROM COMMUNICATION TO INVOLVEMENT**

Reform in the Public Administration, should above all, be essentially cultural, as concerns changes in the mindsets of those with responsibility for government and stakeholders *tout court*. A democratic dialogue is needed whereby public governance should be envisaged as strategic participation; in other words, a cultural revolution both in terms of decision making policy and managerial choices (Mele, 2006; Salvioni and Bosetti, 2009).

At a general level of analysis (Fig.1) illustrates the stages of the evolutionary relationship process between public administrations and their stakeholders (citizens, businesses, etc.). The process starts from a mere exchange of resources to the transmission of information through different forms of communication. Finally, it culminates in the full involvement of the relevant stakeholders thus contributing to the creation of economic and social value.

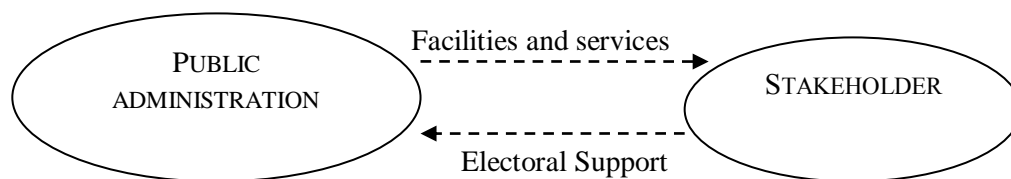
**Fig. 1 – Extended communication**



At a detailed level, each mode of communication can be analyzed (Pellicano, 1992; Levi, 2004; Gregorio, 2004).

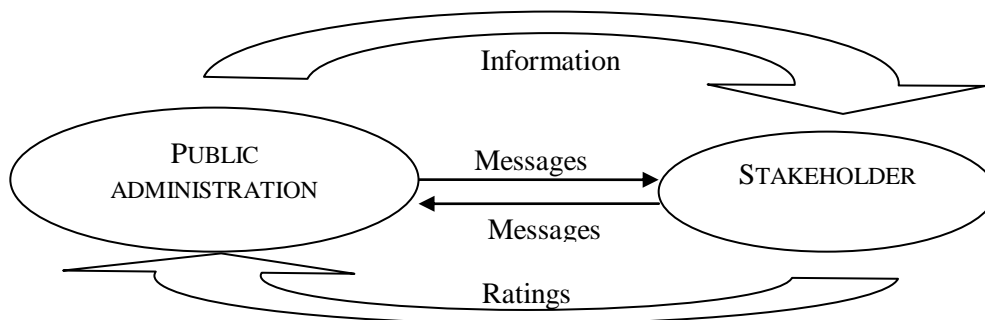
In a first stage (Fig. 2), communication is implicit in action, seeing as the governing body of a public administration is limited to performing the functions for which it is responsible. The literature by now unanimous, relative to the task of defining public administration development pathways in terms of decision making, attributes this exclusive prerogative to the political body (Smith-Ring and Perry, 1985; Del Vecchio, 2001; Vesce, 2006). The objective of politicians is to achieve as much consensus as possible in terms of opportunities for re-election to the governing body in charge of the administration.

**Fig. 2 – Communicating through “action”**



In the following stage, communication becomes explicit through transmission of the message, on the part of government providing information to stakeholders to enhance their level of understanding and appreciation. However, it may happen that some or all of the stakeholders spontaneously send messages as feedback to express either dissatisfaction or pleasure.

**Fig. 3 – Communicating through exchange of information and “feedback”**

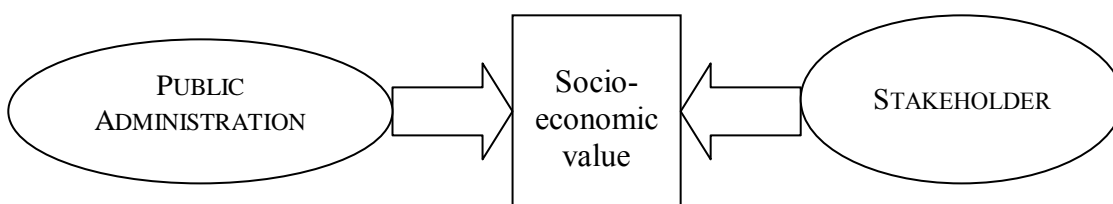


Communication, however, becomes richer in content, only when the governing body presses ahead and develops a constant and constructive communication exchange aimed at establishing and cultivating resonant relationships. A good example is "Governincontra" a campaign of communication where the government organizes local meetings to inform the community of public initiatives and at the same time, to take note of their needs.

This two-way phase of communication becomes more structured when the audience is given the opportunity to interact with the public sector through the use of ‘voice tools’ (Hirschman, 1974). Thus, the government can both build on expectations, considerations and judgments of the community in order to meet their overt or latent needs, and generate positive psychological reactions. Therefore, communication becomes circular and the feedback related, governed and organized (Fig. 3).

The last phase consists in organized and governed involvement (Fig.4). The government promotes and encourages community participation in order to obtain a contribution to solving the problems of the territory of reference and a more focused and rational use of available resources. In this case, communication takes on a different role; in other words, it becomes a relational process for generating knowledge, understanding and mutual trust through collaborative interactions that produce synergistic effects.

**Fig. 4 – Communicating through "involvement"**



#### **4. THE DYNAMICS OF PUBLIC GOVERNMENT DECISION MAKING PROCESSES**

Communication through involvement is also reflected in the definition of public strategy choices. Decision-making is no longer centered on the role and responsibilities of the governing body but involves stakeholders in the process of value creation.

Even in the public sector, therefore, new models of ideation and implementation of policy choices are defined. These policies are not the result of independent decisions taken by the governing body but of the decision-making process itself, its nature being relational and involving several stakeholders.

Consequently, the decisional process, broken down into steps, separate in terms of timescale and implying a rational sequence of input-output, becomes a decisional dynamic process that includes

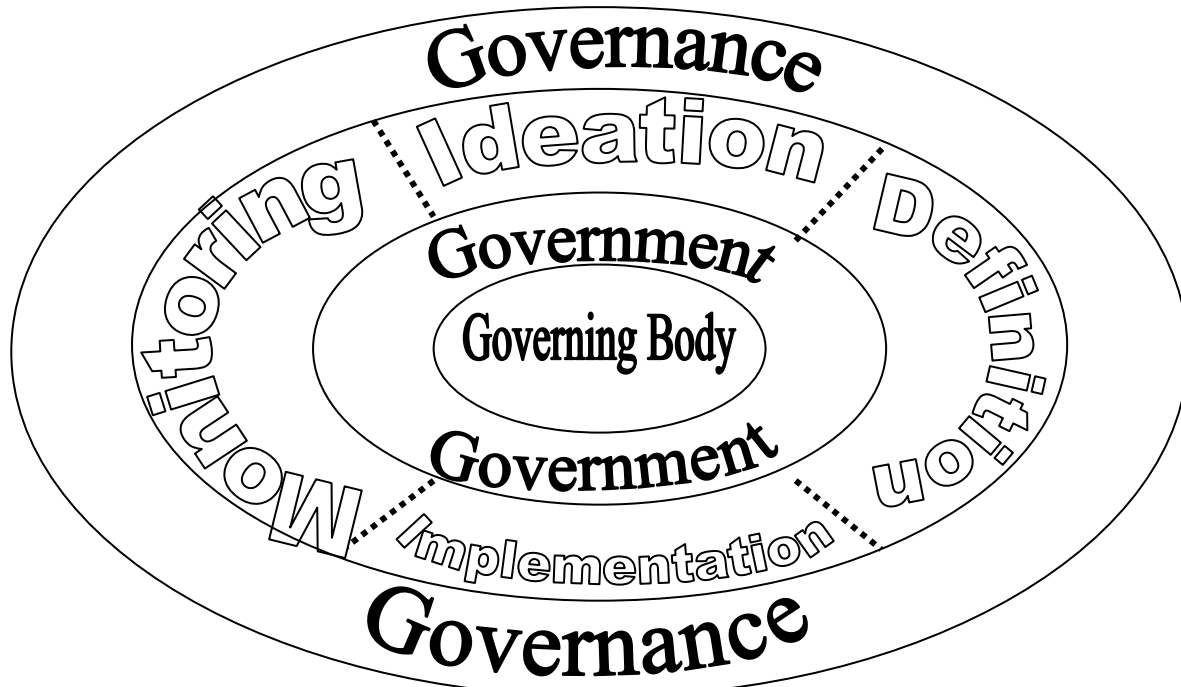
specific, at times concomitant, stages within a circular system perspective (Pellicano and Esposito De Falco, 2003).

As outlined in various international studies (Nutt and Backoff, 1992; Bryson, 1995), the stages can be identified as:

- a) *Ideation*, in which the governing body focuses on ideas or visions of participatory potential initiatives based on stakeholder suggestions after listening to their needs and expectations. A practical example of this is “Piano Casa”, by means of which Central Government, by showing the document of the provisional law to the regions and other local authorities, gained valuable feedback in terms of specific actions to anticipate and changes to make to the document;
- b) *Definition*, in which the governing body translates the ideas into projects, ensuring ex ante, the socio-economic feasibility, the degree of compatibility and the harmonious integration of planning;
- c) *Implementation*, in which the governing body involves the various stakeholders interactively and responsibly, in implementing the initiatives planned. An example is "Reti Amiche" by means of which Central Government has facilitated the delivery of public services to citizens by reducing waiting times. The initiative, through public and private partnership (Italian Post Office, Telecom, etc..) also seeks to improve conditions and assistance provided during the delivery of public services;
- d) *Monitoring*, in which the governing body monitors processes, progress and outcomes.

The description of the stages of decision making dynamics shows that the governing body remains the "protagonist" (Fazzi, 1982) albeit open to discussion with its stakeholders in order to devise and carry out the mission (and visions) of government. In other words, government action facilitates, drives and attempts to address dynamic decision-making processes by using common substantive levers, such as: the clarification and dissemination of principles and values, not to mention visions and missions, through constructive communication with stakeholders (Fig.5).

**Fig. 5 - Dynamic decision-making process**



Source: Adapted by Pellicano, M. (2010). La dinamica strategica. In M., Pellicano, M.V., Ciasullo (Eds.). *La visione strategica dell'impresa* (229-258) Torino: Giappichelli.

At this stage, some distinctions concerning concept and terminology might be useful:

- *Governing body*, an entity with a strategic, dynamic role;

- *Government*, on the basis of governance strategies, the Governing body directs and guides the administration. In other words, the term government is strictly related to the perspective of public action.

- *Governance*, has a broader meaning than government involving the ‘steering’ (Kickert, 1997a) of complex networks in societal policy sectors. In public governance, interaction with the socio-political environment plays an important part and affects the dynamics of stakeholder participation. In other words, governance can be defined as the structure and the processes that ensure democratic decision making and reliable public administration (Schedler, 2003). Public governance is also strictly related to legality, legitimacy and values.

The concept of government invokes the use of hierarchical and proprietary tools with the intent of increasing the effectiveness and efficacy of public action (Longo, 2006; Bovaird and Loeffler, 2003). Therefore stakeholders are seen as mere recipients (Kickert, 1997b). Governance, conversely, better fits the current dynamism of modern society as priority must be given to tools to address and promote social utility for all the stakeholders and public interests (Kooiman, 2003; Ferlie *et al.*, 2003; Pollit, 2003).

The governance perspective as a concept, clearly expands that of government (Rhodes, 1996; 2000) i.e., the mere exercise of powers and functions. The logics of public governance take into account issues of common interest with the collaboration of all stakeholders concerned in order to build consensus (Fici, 2004; Borgonovi, 2002). Furthermore, the logics of governance demonstrates its full potential in complex situations where decisional negotiations exercise full power (Franzoni, 2004; Borgonovi, 2004, Meneguzzo, 1996). In the public sector, the process of governance and coordination of a variety of economic and social processes and strategies, identifies shared goals, to balance diverging public interests (Cepiku, 2005; Mele *et al.*, 2005). The defining elements of the government-governance dichotomy are useful in highlighting decision-making processes relative to the consultation and cooperation between players or stakeholders in the definition and implementation of policies (Cepiku, 2008). In this sense, the interest in the "relational" approach emphasizes the importance both of streamlining internal processes but also the enhancement of stakeholder relations in the co-production of socio-economic value (Pellicano, 2002).

## **5. FROM CITIZEN RELATIONSHIP MANAGEMENT TO STAKEHOLDER RELATIONSHIP GOVERNANCE**

Since the 1990s, even the legislation has emphasised the application of the principles of a relational approach to the governance of public administrations, as concerned mission, citizen satisfaction, trust, communication and collaborative relationships. Several legislative initiatives have been addressed to understanding the needs of citizens (starting from Law no. 241/1990 relating to simplifying administration procedures up to the most recent legislation concerning public communication).

Furthermore, studies of *Citizen Relationship Management* have been developed precisely by virtue of these legislative dispositions. The importance of determining in advance the target users of public services and analyzing the needs of each target (Schellong, 2007) has also been emphasized. In other words, public management should address attention to the needs of different types of users (city residents, workers, visitors to the city, those who use online services) and at the same time, taking into account special needs (Storlazzi, 2006; Storlazzi, 2009).

The Italian public administration is characterized by evident differences. Some public administrations profess a "relational" culture geared to providing better service to citizens, considered partners of the dynamic decision-making process during the phases of ideation and implementation. In other public administrations however, bureaucratic logics, rigid and often unable to implement the relational processes with their stakeholders, is still prevalent. Empirical evidence to this effect, can be found in periodic reports published by the Italian Ministry of Public Function (Bobbio, 2007; Bobbio, 2004; D’Orta and Marconi, 2002).

Consequently, in this respect, a “relational” governance model is suggested: *Stakeholder Relationship Governance* (SRG) refers to all stakeholder categories in public administration contexts. On the contrary, CRM considers stakeholders merely from a holistic citizen perspective.

Furthermore, SRG refers not only to final user stakeholders (citizens, workers, tourists, etc.) but also to any other actors contributing to the provision of quality public services and, therefore, involved in the co-production of socio-economic value. In other words, an "extended" relational process takes place in which the actors involved participate at various levels in the chain of service delivery.

The range (of stakeholders) is extended because communication is active not only in respect of the community (citizens, businesses, families, etc..) but also includes other stakeholders (employees, companies, public services and local administrations operating at different levels, etc.).

The model of public administration relative to the above scenario is the network, characterized by flexibility and interactivity and summed up in the slogan: *connect, communicate and collaborate* (Meneguzzo, 2006). In other words, individual public administrations virtuously connect with stakeholders through inter-system relationships in order to define a unique delivery system and use of services.

Therefore, we can say that SRG is an evolution of CRM, i.e. a more inclusive governance model (involving citizens and other stakeholders providing and delivering public services). The shift is towards above all, a more intense, evolving relationship (from one-way communication to continuous interaction) underpinned by Information Technology.

## **6. ICT APPLICATIONS AND TOOLS TO SUPPORT INTERACTIVE PARTICIPATION**

Appropriate technology available to the public administrations is an asset as public services can be delivered more effectively through ICT tools in terms of knowledge and information (Camussone, 2000). Consequently, public administrations can achieve important strategic objectives such as the decentralization process; aimed at increasing efficiency, transparency, participation and citizen engagement not to mention public trust in government (Senese, 2008).

Furthermore, new ICT applications are fundamental tools for supporting interactive user participation and collaboration with other deliverers of public service and local administrations in order to improve systems and to co-create value. In particular, ICT support influences relational intensity as public administrations can shift from the mere act of publicizing information reaching a process of widespread communication in order to improve the delivery of front-office services through greater participatory involvement (Levi, 2004). Many studies have emphasized the potential offered by ICT: speed, interactivity disintermediation, etc. In particular, the contribution of technological tools also facilitates cultural change and management of the public sector if, in addition to improving the delivery system of service, it encourages the creation of new and effective forms of participation by stakeholders (Di Maria and Micelli, 2004; Howard, 2001; Pollifroni, 2003).

Since processes of technological innovation can affect communication modes and active citizen participation, *e-government* is an integral part of the innovative transformation process that public administrations need to pursue in order to improve not only efficiency levels but also customer satisfaction. Some scholars define institutional e-government as the set of processes and structures functional to electronic delivery on the part of public administrations, relative to information and services to citizens, businesses and other public institutions (Okot-uma, 2001).

Depending on the category of stakeholders, processes of e-government can be divided into (Pollifroni, 2003):

- a) *Government to Citizen* (G2C): which includes activities for the provision of services to its citizens (web portals, online services, etc.);
- b) *Government to Business* (G2B): which refers to the provision of services to businesses (i.e. possibility of transmitting electronic tax returns);
- c) *Business to Government* (B2G): which refers to the activities of public administrations to supply goods and services through the channel of e-commerce (i.e. activities of e-procurement);
- d) *Government to Employees* (G2E): which supplies services to its staff (i.e. distance learning, e-learning, etc.);

e) *Government to Government* (G2G): which includes the relations between public administrations belonging to an individual nation-state and inter-relationships of public administrations of one country with another.

E-governance covers interactive processes which public administrations are experimenting: vertical relationships with public service users and horizontal relationships with other companies and institutions involved in the supply service chain; in other words, from a micro, macro and meso-interactive perspective (Fici, 2004; Cepiku, 2005). This model is similar to the innovative four, five or six stage models of *e-government* (Layne and Lee, 2001; Chandler and Emanuels, 2002; Irani *et al.*, 2006) in which public administrations integrate different services in their database and link up with other institutions operating at higher levels. In short, the term e-governance includes the experimenting of new forms of citizen participation in political life (e-participation) thus enhancing and expanding the e-democracy approach. In terms of e-participation, the ultimate goal is: to increase citizen access to information (e-information); to engage citizens in discussion (e-consultation); and to frame a participatory decision making process (e-decision making) (Tanese, 2008).

Consequently, the government-governance dichotomy can be seen in a digital key (Mele, 2006) as governance is not limited merely to the provision of services online but in the broadest sense, is the ability to balance stakeholder needs through policies and actions of mutual benefit. Furthermore, the relationship between public administrations and stakeholders can be profoundly altered by new media channels and ICT plays a crucial role in the process. In short, the logics of e-governance should lead to some radical rethinking in terms of dynamic relational processes increasing the value created for all users through the network of virtual relations.

## 7. EMPIRICAL RESEARCH

### 7.1 Methodology

In order to detect CRM practices currently applied in Italian public administrations and to ascertain traces of a relational approach "extended" to all stakeholders (SRG), the survey focused on a specific research question: is the Italian public administration's relational approach "extended" to all stakeholders to facilitate their participation and involvement in public decision-making?

Information was collected by analyzing existing secondary data. The main source was a Ministry (Ministry for Innovation and Public Function) database. Then, the field of reference was defined and the sample selected. Our analysis focused on public administrations operating at different territorial levels (regions, provinces and municipalities) taking into account the fact that they are welfare agencies dealing with the needs of the community and the development of the territory in which they are located for the co-creation of socio-economic values. Experiences and good governance practices (relative to the year 2009) carried out by local public administrations and published in the Ministry database were analysed.

The sample included 565 local administrations: 127 Regions, 135 Provinces and 303 Municipalities. The distribution by type of administration (regional, provincial and municipal) was reported merely for descriptive purposes. In the analysis and selection of the sample, quantitative parameters (such as: territorial size and population) were not taken into account but assessed only in the context of initiatives of stakeholder interaction undertaken by the public administrations. Our research also took into account experiences in which the communication activities had an explicit form (information, communication and involvement), omitting those whereby the administrations investigated provided a service to the community through forms of implicit communication ("action"). Consequently, the sample was reduced by 9%, corresponding to 50 local administrations (9 regions, 33 provinces and 8 municipalities).

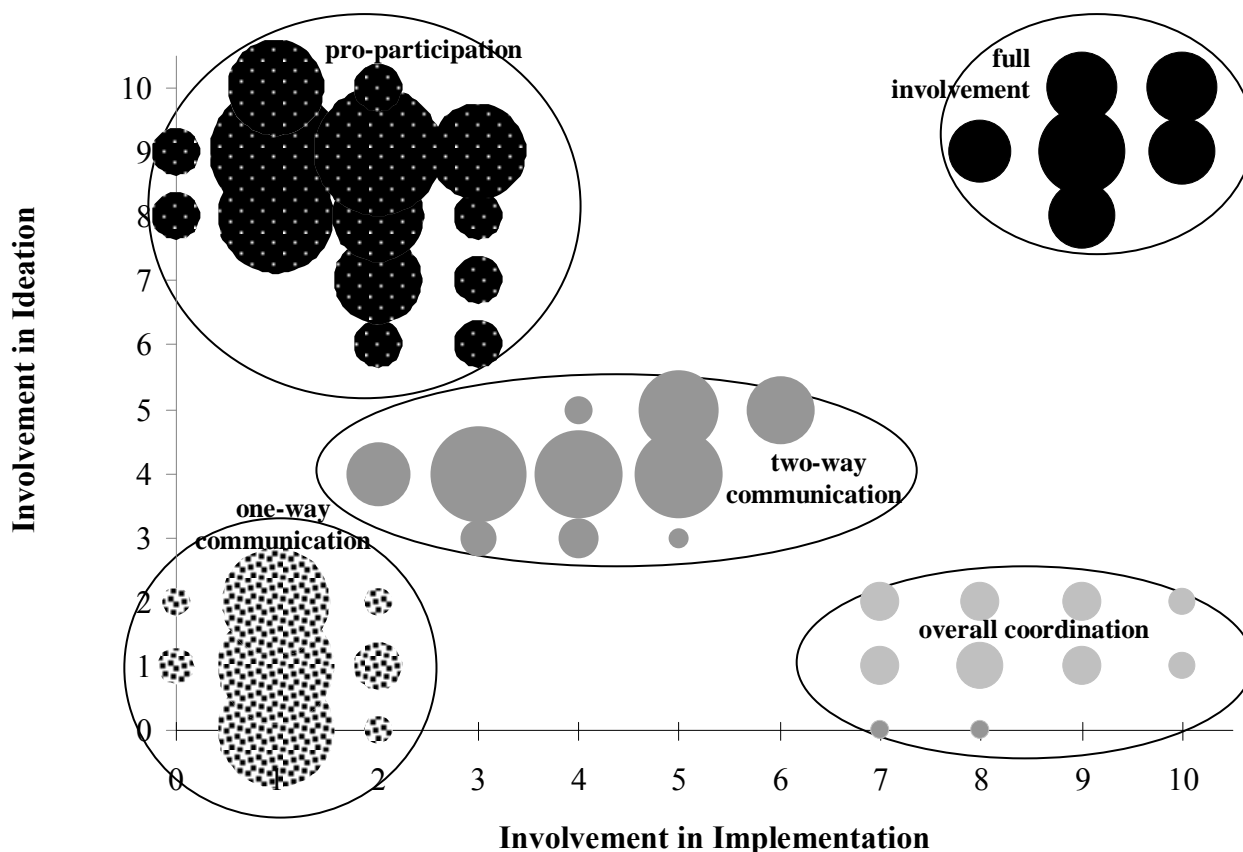
The best practices in place evidenced how the public administrations focused on citizen satisfaction, stakeholder expectations and the specific targeting of segments of public services (citizens, businesses, etc.). Our methodology envisaged analyzing the modalities characterizing public

administrations practices, by means of appropriate information and tools, in line with Kuhn’s conceptual framework “through which scientists look at the world” (Kuhn, 1969) and Weber’s perspective according to which “reality cannot simply be observed, but interpreted” (Weber, 1958).

## 7.2 Findings

From the analysis and description of the best practices investigated, each administration with respect to stakeholder involvement in the ideation and implementation phases was mapped and positioned (Fig. 6).

**Fig. 6 – Public administration clusters**



It should be underlined that involvement does not refer only to users of public services but also to any others involved in providing and delivering services. The extent of involvement was measured in the two decisional stages (ideation and implementation) of the decision-making process in which the governing body is open to listening and communicating with the different stakeholders. Consequently, the measure of participation and involvement on the part of stakeholders in both decisional stages enabled the positioning of good governance practices.

Using a range from 0 to 10, the experiences observed were converted into quantifiable information in line with current definitions of measurement (Corbetta, 2003) with 0 referring to experiences in which there was no involvement on the part of stakeholders and 10 attributed to initiatives, designed or implemented, with full stakeholder involvement.

The graph shows several clusters, distinguished by different shades of color, from which it is possible to define a taxonomy of initiatives.

■ In the ideation stage a number of listening initiatives (42% of the total sample) emerge. Best practices are indicated in the top left hand corner of the graph. These initiatives are aimed primarily at understanding the needs citizens may have, even by means of using ICT, to improve the quality



of service and to guide government in their design. The purpose of the experience in the “pro-participation” cluster is to involve citizens in service design in order to give more appropriate responses to their needs. Stakeholder involvement in this case, is limited only to the ideation stage. The target users are generally those of public services and the citizenship as a whole. Very sporadic, in addition, are *customized* initiatives aimed at specific users (i.e. the young, elderly, disabled, etc.).

■ In the implementation stages, organizing initiatives (6%) are indicated. Best practices are positioned in the bottom right corner of the chart. In order to establish a comprehensive system of delivery and supply of public services, stakeholder involvement concerns public authorities and private organizations and is high especially in the implementation stage. Therefore, the objective of the “overall coordination” cluster is to eliminate unnecessary steps and to make administrative procedures more streamlined. Specific initiatives are also evidenced of involvement aimed at improving the organizational effectiveness of public sector employees. Best practices involving families considered as a specific category of stakeholders, should also be underlined. In this respect, some administrations have entrusted the responsibility for public policies by attributing them the role of active participants in welfare projects, education and training. In fact, some local authorities have supported the self-organized workshops in which parents, rather than bearers of requests, manage listening and discussion info-points or groups with both individuals and the community.

■ A cluster, defined as “one-way communication”, positioned in the lower left hand corner of the graph, is concentrated in 19% of the total. The intention of these administrations is transparency in public action, in terms of the right to information, access to files, etc. Stakeholder involvement is low here both in the ideation and in the implementation stage. Most of the experiences in this cluster are concentrated in a new online information service which provides the opportunity for citizens to be constantly abreast of public activities and in some cases, offering online legislation and consultation. The relative information is generally addressed to the citizens as a whole or to tourists in particular. With regard to the tourist segment, initiatives concern the advertising of routes, events or enhancing the natural and cultural heritage.

■ A cluster, defined “two-way communication”, is positioned near the center of the map. The experiences concern a number of administrations (19% of the total sample), for most municipalities that have started preliminary forms of dialogue with citizens, through their website. The goal is to give more opportunities for citizens to express their views relative to municipal services and in the name of transparency, not only to account for the action undertaken and achievements made, but to publicize the results (factors of excellence and critical factors). It emerges from the investigation that in this cluster, involvement is not particularly high both in the ideation and in the implementation stage. Modalities are: reporting; customer satisfaction in relation to specific public services provided (registry services, municipal police, etc.); implementation of a system for managing claims and complains. These practices have also required changes, sometimes training sessions to prepare staff to carry out surveys on users (customer satisfaction), employees (auditing), analysis needs, where results and plans for improvement are accountable to the citizens.

■ A high degree of involvement in the decision-making processes of opening government to stakeholders is recorded in special practices where citizen rights are recognized in terms of participating actively in the ideation stage not to mention their involvement in the implementation of related public policies. The “full involvement” cluster positioned in the top right hand corner of the graph, comprises 14% of the total sample. Even the tools of negotiated planning are inspired by the logic of broad stakeholder engagement and the concentration of efforts on common and shared goals. Many initiatives in this cluster are implemented by some regional governments with the objective of promoting the culture of social participation of provincial and municipal governments. In addition, some regional initiatives relate solely to the involvement of other institutional stakeholders belonging to the health service system or education, for establishing councils capable of designing and implementing adequate and appropriate health or education policies.

## **8. DISCUSSION AND IMPLICATIONS FOR FURTHER RESEARCH**

In brief, the purpose of the paper was to verify a significant cultural change in attitude on the part of Italian public administrations based on empirical evidence.

In the first part of the paper, more extensive forms of public communication were theorized. Findings show, in effect, an "extended" relational approach is confirmed where public administrations exchange information and communication with stakeholders and contribute to the co-creation of socio-economic value. Governing bodies should be aware that more stakeholder involvement produces positive effects: in the short term, it provides quality of services and customer satisfaction; in the long term, it improves the quality of life, prosperity and ultimately, happiness (Gregorio, 2006; De Biase, 2007).

Empirical evidence shows, however, that the best practices examined include, for the most part, communication of information, or the measurement of customer satisfaction as feedback for improving public services. In fact, both the former and the latter are motivated by the need to comply to the dispositions of public reform in Italy. As concerns technology, some evidence of change in terms of relational communication extended to all stakeholder categories has been reported. However, their involvement in the dynamics of public decision-making processes is still only sporadic.

Recent innovations in communication and collaborative relationships evidence little change in terms of creation and distribution of socio-economic value. Consequently, it would be desirable to verify whether, through such relational practices, the delivery and the redesigning of service provision processes could achieve this aim.

## REFERENCES

- Bain, J.S. (1956). *Barriers to new competition*. Cambridge: Harvard University Press.
- Ballabeni, F., & Forghieri, C. (2004) La comunicazione pubblica verso il CRM. <http://www.forumpa.it>.
- Barile, S., Golinelli, C.M. (2008). Modalità e limiti dell'azione di governo del territorio in ottica sistemica. In S. Barile (Ed.), *L'impresa come sistema. Contributi sull'Approccio Sistemico Vitale*. Torino: Giappichelli.
- Bobbio, L. (2004). *A più voci. Amministrazioni pubbliche, imprese, associazioni e cittadini nei processi decisionali inclusivi*. Napoli-Roma: Edizioni Scientifiche Italiane.
- Bobbio, L. (2007). *Amministrare con i cittadini. Viaggio tra le pratiche di partecipazione in Italia*. Roma: Rubettino.
- Borgonovi, E. (2002). *Principi e sistemi aziendali per le amministrazioni pubbliche*. Milano: Egea.
- Borgonovi, E. (2004). *Principi e sistemi aziendali per le amministrazioni pubbliche*. Milano: Egea.
- Botti, A. (2006). L'innovazione strategica promossa dai nuovi strumenti di sviluppo economico. In R. Mele & A. Storlazzi (Eds.), *Aspetti strategici della gestione delle Aziende e delle Amministrazioni Pubbliche* (pp. 179-196). Padova: Cedam.
- Bovaird, T., & Loeffler, E. (2003). *Public Management and Governance*. London: Routledge.
- Bryson, J.M. (1995). *Strategic planning for public and no profit organizations*. San Francisco: Jossey Bass.
- Camussone, P.F. (2000). *Informatica, organizzazione e strategie*. Milano: Mc Graw Hill.
- Cepiku, D. (2005). *Governance: riferimento concettuale o ambiguità terminologica nei processi di innovazione della PA?*. *Azienda pubblica*, 1, 105-131.
- Cepiku, D. (2008). Public Governance: research and operational implications from a literature review. In D., Cepiku, M., Meneguzzo, & M., Senese (Eds.), *Innovations in Public Management and Governance in Italy* (97-113). Roma: Aracne.
- Chandler, S. & Emanuels, S. (2002). Transformation Not Automation. In *Proceedings of 2nd European Conference on E-government*, Oxford, UK: St Catherine's College.
- Corbetta, P. (2003). *La ricerca sociale: metodologia e tecniche. L'analisi dei dati*. Vol. IV. Bologna: Il Mulino.
- D'Orta, C., & Marconi, P. (2002). *Proposte per il cambiamento nelle amministrazioni pubbliche*. Roma: Rubettino.
- De Biase, L. (2007). *Economia della felicità*. Milano: Feltrinelli.
- Del Vecchio, M. (2001). *Dirigere e governare le amministrazioni pubbliche*. Milano: Egea.
- Di Maria, E., & Micelli, S. (Eds.) (2004). *Le frontiere dell'e-government: cittadinanza elettronica e riorganizzazione dei servizi in rete*. Milano: Franco Angeli.
- Farinet, A., & Ploncher, E. (2002). *Customer relationship management*. Milano: Etas.
- Fazzi, R. (1982). *Il governo d'impresa*. Vol. I. Milano: Giuffrè.
- Ferlie, E., Hartley, J., & Martin, S. (2003). Changing Public Services Organizations: Current Perspectives and Future Prospects. *British Journal of Management*, 14(1), 1-14.
- Fici, L. (2004). *Governance Interna, esterna e inter-istituzionale negli enti locali*. Milano: Franco Angeli.
- Franzoni, S. (2004). *La corporate governance nell'ente locale*. Milano: Franco Angeli.
- Golinelli, G.M. (2000). *L'approccio sistemico al governo dell'impresa. L'impresa sistema vitale*. Vol. I. Padova: Cedam.
- Golinelli, G.M. (2005). *L'approccio sistemico al governo dell'impresa. L'impresa sistema vitale*, Vol. 1, 2a Ed., Padova: Cedam.
- Gregorio, A. (2004). *La funzione di comunicazione nelle pubbliche amministrazioni*. Rimini: Maggioli.
- Gregorio, A. (2006). *Cittadini attivi: un altro modo di pensare all'Italia*. Roma: LaTerza.
- Hirschman, A.O. (1974). Exit, voice and loyalty: Further reflections and a survey of recent contributions. *Social Science Information*, XIII (1), 7-26.

- Howard, M. (2001), E-Government Across the Globe: How Will 'e' Change Government. *Government Finance Review*, 17(4), 6-9.
- Irani, Z., Al-Sebie, M., & Elliman, T. (2006). Transaction Stage of e-Government Systems: Identification of Its Location and Importance, *Proceedings of the 39th Annual Hawaii International Conference on System Sciences (HICSS'06)*, Track 4.
- Jordan A., Wurzel K. W. R., Zito A. (2005), The Rise of 'New' Policy Instruments in Comparative Perspective: Has Governance Eclipsed Government?, *Political studies*, 53, 477-496.
- Kickert, W.J.M. (1997a). Public governance in the Netherlands: an alternative to anglo-american 'managerialism', *Public Administration*, 75 (Winter), 731-752.
- Kickert, W.J.M. (Ed.) (1997b). *Public Management and administrative reform in Europe*. Aldershot: Edward Eglar.
- Kooiman, J. (2003). *Governing as governance*. London: Sage Publication.
- Kuhn, T. (1969). *La struttura delle rivoluzioni scientifiche*, Torino: Einaudi.
- Layne, K., & Lee, J. (2001). Developing fully functional E-government: A four-stage model. *Government Information Quarterly*, 18, 122-136.
- Levi, N. (2004). *Il piano di comunicazione nelle amministrazioni pubbliche*. Roma: Edizioni Scientifiche Italiane.
- Longo, F. (2006). *Governance delle reti di pubblico interesse: quali strumenti manageriali per rispondere ai problemi attuativi?*. *Azienda pubblica*, 1, 13-35.
- Mele, C. (2006). La gestione del cambiamento collegata al governo elettronico. In M., Meneguzzo, D., Cepiku, & E., Di Filippo (Eds.), *Managerialità, innovazione e governance* (253-293). Roma: Aracne.
- Mele, R. (2006). La formazione delle scelte ed i processi decisionali tra i poteri dello Stato. In R. Mele & A. Storlazzi (Eds.), *Aspetti strategici della gestione delle Aziende e delle Amministrazioni Pubbliche* (pp. 37-64). Padova: Cedam.
- Meneguzzo, M. (1995). Dal *New Public Management* alla *Public Governance*: il pendolo della ricerca sulla Amministrazione Pubblica. *Azienda Pubblica*, 8(3), 491-510.
- Meneguzzo, M. (2006). I diversi modelli di Stato e di sistemi pubblici: riflessi sulla gestione dell'azienda pubblica. In M., Meneguzzo, D., Cepiku, & E., Di Filippo (Eds.), *Managerialità, innovazione e governance* (7-16). Roma: Aracne.
- Nutt, P., & Backoff, R. (1992). *Strategic management of public and third-sector organizations*. San Francisco: Jossey Bass.
- Okotuma, W'OR (2005), *Electronic Governance: Reinventing Good Governance*, <http://www1.worldbank.org/publicsector/egov/Okot-uma.pdf>, 8.
- Parvatiyar, A., & Sheth, J.N. (2001). Customer Relationship Management: Emerging practice, Process, and Discipline. *Journal of Economic and Social Research*, 3 (2), 1-34.
- Payne, A., & Frow, P. (2005). A Strategic Framework for Customer Relationship Management. *Journal of Marketing*, 69 (Oct), 167-176.
- Pellicano, M. (1992). *La comunicazione aziendale nelle imprese di servizi pubblici*. Padova: Cedam.
- Pellicano, M. (2002) *Il governo delle relazioni nei sistemi vitali socioeconomici. Imprese, reti e territori*. Torino: Giappichelli.
- Pellicano, M. (2010). La dinamica strategica. In M. Pellicano, M.V. Ciasullo (Eds.). *La visione strategica dell'impresa* (229-258) Torino: Giappichelli.
- Pellicano, M., & Esposito De Falco, S. (2003). Dal processo decisionale alla dinamica strategica: implicazioni per la governance d'impresa. *Annali Facoltà di Economia*, Unisannio, 9.
- Pollifroni, M. (2003). *Processi e modelli di e-government ed e-governance applicati all'azienda pubblica*. Milano: Giuffrè.
- Pollit, C. (2003). *The Essential Public Manager*. Maidenhead: Open University Press.
- Pollit, C., & Bouckaert, G. (2002). *La riforma del management pubblico*. Milano: Egea.
- Reinartz, W., Krafft, M., & Hoyer, W.D. (2004). The Customer Relationship Management Process: Its Measurement and Impact on Performance. *Journal of Marketing Research*, 41(3), 293-305.

- Rhodes, R.A.W. (1996). The new governance: governing without government. *Political Studies*, 44, 652-667.
- Rhodes, R.A.W. (2000). The governance narrative. Key findings and lessons from ESRC's withhall Programme, *Public Administration*, 78 (2), 345-363.
- Salvioni, D., & Bosetti, L. (2009). Comunicazione e trasparenza sulla governance. In R. Mele & R. Mussari (Eds.), *L'innovazione della governance e delle strategie nei settori delle public utilities* (pp. 341-388). Bologna: Il Mulino.
- Schael, T., Sciorra, G., & Tanese, A. (2003). *Il call center nelle amministrazioni pubbliche*. Soveria Mannelli: Rubbettino.
- Schedler K. (2003), Local and regional public management reforms in switzerland, *Public Administration*, 81 (2), 325-344.
- Schellong A. (2007). Citizen Relationship Management, doi: 10.4018/978-1-59140-789-8.ch026.
- Senese, M. (2008). Decentralization and ICTs: A review of best practices. In D., Cepiku, M., Meneguzzo, & M., Senese (Eds.), *Innovations in Public Management and Governance in Italy* (123-138). Roma: Aracne.
- Simon, H. (1955). A behavioral model of rational choice. *Quarterly Journal of Economics*, 69 (1), 99-118.
- Simon, H., (1976). *Administrative behaviour*. New York: Free Press (trad. it. *Il comportamento amministrativo*. Bologna: Il Mulino, 1979).
- Smith-Ring, P., & Perry, J.L. (1985). Strategic Management in Public and private Organizations: Implications of Distinctive Contexts and Constraints. *Academy of Management Review*, 10(2), 276-286.
- Storlazzi, A. (2006). L'innovazione e lo sviluppo strategico collegato alle esigenze dei cittadini. In R. Mele & A. Storlazzi (Eds.), *Aspetti strategici della gestione delle Aziende e delle Amministrazioni Pubbliche* (pp. 119-133). Padova: Cedam.
- Storlazzi, A. (2009). Imprese di pubblici servizi locali ed approccio relazionale al mercato: un'analisi empirica. In R. Mele & R. Mussari (Eds.), *L'innovazione della governance e delle strategie nei settori delle public utilities* (pp. 455-520). Bologna: Il Mulino.
- Tanese, A. (2006). Il cambiamento organizzativo nelle amministrazioni pubbliche: un approccio strategico. In M., Meneguzzo, D., Cepiku, & E., Di Filippo (Eds.), *Managerialità, innovazione e governance* (179-218). Roma: Aracne.
- Tanese, A., Negro, G., & Gramigna, A. (2003). *La customer satisfaction nelle amministrazioni pubbliche*. Soveria Mannelli: Rubbettino Ed.
- Tivelli, L. (2003). *Verso una nuova cittadinanza*. Roma: Fazi.
- Vesci, M. (2006). I processi strategici e i processi politici nella pubblica amministrazione. In R. Mele & A. Storlazzi (Eds.), *Aspetti strategici della gestione delle Aziende e delle Amministrazioni Pubbliche* (pp. 67-84). Padova: Cedam..
- Weber. M. (1958), *Il metodo delle scienze storico-sociali*

## **INNOVATIVE SYSTEMS IN ITALIAN TOURISM. SO-CALLED “EXTENDED” HOTELS**

**Marco Pellicano**

University of Salerno, pellicano@unisa.it

**Giulia Monetta**

University of Salerno, gmonetta@unisa.it

### **ABSTRACT**

The current phase of sustainable tourism in development terms is characterized by a growing number of innovative models and approaches. In ‘a first time ever’ perspective, a simple and innovative tourism concept stems from the refurbishing of small Italian villages. The case study presented delineates an organized and sustainable way of saving such places through tourism. The so-called “extended hotel” does not comprise a single building or compound, but several converted historic buildings in a small community. The principle is that the accommodation, decorated in a consistent and local style, is scattered throughout various buildings in the village but overseen by one manager. The project acts as a driver of development because managers are encouraged to source all the products used in the hotel from local producers. Like a holiday apartment, an ‘extended’ hotel enables travelers to be part of village life with the added bonus of all the basic services of a traditional hotel.

The case study is of interest for two reasons: on the one hand, the model analyzed lends itself to the clashes and current debate on tradition and modernity; on the other, its practical dimension clearly suggests that the formula could quite easily be replicated in other countries.

### **INTRODUCTION**

The general global crisis that has hit today’s society has brought about manifest economic, social and environmental instability, making it necessary to find alternative sustainable solutions that will redress imbalance and allow us to look to the future with increased optimism and relative serenity. Leaving aside innovations possible in other sectors of the economy, tourism can make a welcome contribution, bringing much needed positive changes through the creation and development of new hospitality models that are increasingly sensitive to the themes of sustainability, the revitalization of small local communities and offering tourists an authenticity experience<sup>1</sup>.

Even before the recession, globalization had the effect of standardizing individuals’ behavior and led to a higher concentration of the masses in large cities, while internal and neighboring areas lost much of their value and, in particular, their capacity to attract

---

<sup>1</sup> Farrell B., Twining-Ward L. (2004), Reconceptualizing tourism, *Annals of Tourism Research*, Vol. 31, n. 2; Telfer D. J. (2002), The evolution of tourism and development theory, in R. Sharpley, D. J. Telfer (Eds.), *Tourism and development: Concepts and issues*, Clevedon: Channel View Publications; Wall G., Mathieson A. (2006), *Tourism: Changes, impacts, and opportunities*, New York: Pearson Prentice Hall.

tourists. These areas presently cover a supporting role to urban economies and over time have become indifferent functional containers. This loss of values, traditions and customs has led to the abandonment of buildings, both scattered and concentrated locally, some of which are of significant historical and architectural value. Today, this patrimony can facilitate the development of new types of tourism that seek to enhance internal areas through the rediscovery of the values of authenticity and local identity<sup>2</sup>. During their vacations, today's tourists have shown the need for relationality, that is to say, authentic human relationships, which contribute to rebalancing the isolation that derives from the anonymity of the large city experience. In this way, when suitably addressed, the relationship between the resident host community and tourists takes on an increasingly central role in tourism. Moreover, this type of tourist is less interested in the traditional destinations of mass tourism, which in some areas has damaged local identity, preferring more unusual destinations and internal areas where external influences have had little effect on local culture and traditions.

These changes have led to new, constantly evolving forms of touristic accommodations such as bed and breakfasts, guest houses and holiday homes.

The paper focusses on a particular, innovative project that provokes no negative economic, social or environmental impacts and at the same time attempts to provide a concrete alternative to mass tourism and behavioral standardization. In fact, thanks to the involvement of the entire community in which it operates, and through the recovery of assets that modern society has abandoned, extended hotels represent one of the possible expressions of sustainability in the touristic field.

## **RESEARCH PURPOSE AND STRUCTURE OF THE PAPER**

By means of a review of innovation research in tourism, this paper underlines the importance of themes regarding sustainability, authenticity and hospitality.

The present Italian economic crisis has led operators within the field to propose a natural evolution of the sector through new forms of hospitality that are firmly rooted in the environmental and cultural context of reference. Of these innovative hospitality solutions, the paper focusses on the Extended Hotel model, an entirely Made in Italy model potentially capable of:

- recovering the area in which it operates and promoting sustainable development
- breaking seasonal barriers of tourist offers and packages while fully understanding travelers' needs
- offering authentic experiences that are firmly rooted within the territory / local community

Such characteristics make the Extended Hotel model unique and quite different from other hospitality structures. The paper provides details on the particulars and differences of this model and references various concrete Extended Hotel initiatives in Italy. In fact, using a number of empirical cases, the empirical research discusses in detail both strong points and weaknesses, as well as future prospects for the Extended Hotel; a hospitality formula which provides a real challenge for the revitalization of local territories, as the very model

---

<sup>2</sup> Palmer C. (1999), Tourism and the symbols of identity, *Tourism Management*, n. 20; Rogers S. (2002), Which heritage? Nature, culture and identity in French rural tourism, *French Historical Studies*, Vol. 25, n. 3.

itself relies primarily on the strong participation of the host community, as well as on astute marketing and management activities.

More precisely, the first part of the paper concentrates on the evolution that the tourism sector has undergone over the last few years and analyzes the new competitive behaviors that firms within the sector have been faced with. In particular, it attempts to illustrate the opportunities inherent in the enhancement of the resources of territories in which the sectors' firms operate and the impact generated at an economic, social and environmental level on the communities and on the people involved, as well as the sustainable role embodied by such development. The second part focusses on the central theme of Extended Hotels by means of an analysis of the basic notion, definition and characteristics of Extended Hotels, of the different themes such structures can adopt, the types of clients they are aiming at, and ends with a list of various structures in Italy, highlighting, wherever possible, strong points, weaknesses and possible opportunities and risks that can be met when undertaking this type of initiative.

### **INNOVATION AND TRADITION: NEW DRIVERS IN TOURISM MODELS**

For many countries, including Italy, tourism represents one of the main sources of income and sustenance, that is, when it is perceived as an instrument of innovation and used intelligently. That is to say, in this sector, ideas are increasingly important: ideas that have to be ingenious, innovative, experimental, but above all, competitive. Over the last ten years, the range of proposals within the hospitality sector has changed from being static and conservative to being much more dynamic and lively, and has witnessed the appearance of new innovative and authentic hospitality models<sup>3</sup>.

The transition from a static type of competition, trapped within rigid frameworks, to a dynamic style of competition leads us to believe that there is not so much a single model of a 'winning' firm as a variety of possible strategic paths aimed at the achieving and maintaining of competitive advantages. The causes which have led to increased competitiveness are: the progressive fall of physical, information and financial barriers which have highlighted the emergence of global competition, the deregulation of normative contexts, the restructuring of and reconversion of many firms, along with the evolution of demand and lifestyles. This last aspect has highlighted the inadequacy of consolidated strategic models within the tourist sector, while at the same time underlining the difficulties involved in changing strategic behavior modalities. In other words, the strategic models of the 1970s and 80s represent useful schemes when analyzing the competitive environment and the position occupied by firms, but they do not take into account competitive advantages in a dynamic process. In short, the advantages enjoyed by tourist firms in the past can only continue within a relatively static environment.

The environmental context in contemporary economies is in continual evolution: competitors are aggressive, innovative, moving from one position to another within the marketplace, systematically weakening the advantage of dominant firms. Therefore, firms, as well as facing competitors' advantages, must innovate tirelessly within a long term

---

<sup>3</sup> Stamboulis Y., Skayannis P. (2003), Innovation strategies and technology for experience-based tourism, *Tourism Management*, Vol. 24, n. 1. Liburd J. J. (2005), Sustainable tourism and innovation in the mobile tourism services, *Tourism Review International*, Vol 9, n. 1.



perspective where the sustainability of their own advantage is a function of competitors' actions by means of the continuous regeneration and growth of their own patrimony of resources and competencies.

Therefore, from a theoretical perspective of an evolutionary nature<sup>4</sup>, firms compete above all by means of a battle to improve and innovate, in which the main sources of competitive advantage, when they depend on the possession of specific capacities and competencies, must nevertheless be defended, developed and renewed continuously to conserve their uniqueness<sup>5</sup>. This quest for uniqueness would appear to be the result of two fundamental tools of today's competition: innovation and tradition<sup>6</sup>.

What this means is that innovation is the basis of business activity, something intimately linked to the very concept of 'being a firm' and to the modalities of implementing strategies<sup>7</sup>. Therefore, innovation does not only refer to material, tangible, technological aspects, but on the contrary, impacts all the components of the structure, both internal and external, and as such, includes organization, supply and distribution modalities. Pioneering firms, by which we intend innovative firms, are those which, reconfiguring the elements of their business system in an original way, are able to create themselves new spaces within the marketplace<sup>8</sup>.

Freeman's definition also highlights this point of view: 'innovation is a process that comprises design, production, management, and the commercial activities linked to the introduction of a new or improved product, process or service'<sup>9</sup>.

Having said that, by innovation we mean any new business idea or idea regarding scientific, technical or technological development, that can identify a value proposition capable of creating value for the client<sup>10</sup>. Therefore, the adoption of a strategic vision of innovation implies considering traditional technology push e demand pull models as outmoded, both of which are characterized by a sequential and unidirectional logic of the innovative process, centering on definite 'interactive' models that emphasize the complex interrelations that innovation derives from. In this case, innovation is generated by a variety of internal and external factors that act upon firms in a joint and interconnected multi-factored way<sup>11</sup>. In particular, innovation is the result of interactions not only between firms' internal business processes, but also between firms and their stakeholders. In this case, we see forms of collaboration extended both towards clients who are considered true

---

<sup>4</sup> Nelson R., Winter S. (1982), *An Evolutionary Theory of Economic Change*, Belknap Press, Cambridge; Butler R.W. (1993), *Tourism-an evolutionary perspective*, in J. G. Nelson, R. Butler, & G. Wall (Eds.), *Tourism and sustainable development: Monitoring, planning, managing*, Waterloo: University of Waterloo Heritage Resource Centre.

<sup>5</sup> Stalk G., Evans P., Shulman L. (1992), *Competing on capabilities: The new rules of corporate strategy*, *Harvard Business Review*, marzo-aprile.

<sup>6</sup> Pellicano M., Ciasullo M.V. (2010) (Eds.), *La visione strategica dell'impresa*, Giappichelli, Torino; Plechero M., Rullani E. (2009), *Innovare. Reinventare il Made in Italy*, Milano: Egea.

<sup>7</sup> Cotta Ramusino E., Onetti A. (2009), *Strategia d'impresa*, Il Sole 24Ore, Milano.

<sup>8</sup> Abell D.F. (1980), *Defining the Business Strategy: Starting Point of Strategic Planning*, Prentice Hall, Englewood Cliff.

<sup>9</sup> Freeman C. (1974), *The economics of industrial Innovation*, Penguin Modern Economics Text, Harmondsworth.

<sup>10</sup> Christensen C. (1997), *The Innovator's Dilemma*, Harvard Business School Press, Cambridge MA.

<sup>11</sup> Cooper R. G., Kleinschmidt E. J. (1988), *Resource Allocation in the New Product Process*, *Industrial Marketing Management*, n. 17.

co-producers of innovation<sup>12</sup>, and towards economic actors operating at the various stages of the same supply chain or even in different supply chains. Innovation in the tourism sector, the result of collaboration between firms and territories, when it (undergoes continuous and joint market creation) is the result of a precise intentional plan co-determined by firms along with their clients, suppliers, and local governments. This is the strategy defined as ‘blue ocean strategy’, characterized by the creative strength of firms in identifying niches in the market as yet unoccupied by competitors. This approach contrasts with the ‘red ocean strategy’ which is aimed at snatching shares of a market from competitor firms within sector limits<sup>13</sup>.

It has been said that tradition is another competitive tool. This reference to tradition is meant to highlight how firms’ quest for uniqueness is linked to country-specific resources, factors that are difficult to imitate and, therefore, deeply rooted within a particular territorial identity. Using tradition as a tool therefore implies adding value to the territorial roots of production and serves as a reminder of the importance of manufacturing competencies based on experience gained within a specific territorial context. Think, for example, of Made in Italy. This is a unique and original phenomenon at a worldwide level; a strategic asset which is the expression of a rich and variegated context. The ancient artisan traditions and culture that are rooted in the territory of origin are elements that make it impossible for other countries to develop this model: in many ways, it is an inimitable phenomenon.

Therefore, tradition refers to identity, by which we mean an expression of specific distinctive signs a genetic code of sorts, that enhances identity by creating strong, positive and unique associations. In this case, attention is moved from the proposal itself to the experience it offers, exalting its emotional and sentimental aspects<sup>14</sup>. Choosing a tourist destination characterized by deeply rooted traditions means securing the key to a community that is bonded by beauty, functionality and taste. From this perspective, tourist firms use these qualities to exploit a common and reciprocal understanding which reinforces strong links and a sense of belonging within local communities, and which embody the values of the local lifestyle. From this point of view, it cannot be denied that there are various tourist and business models within the sector that are very community oriented. These businesses, as well as exploiting innovation and tradition in alternative ways to establish a winning competitive capacity, manage to combine the two, thus creating a third alternative.

## **SUSTAINABLE TOURISTIC DEVELOPMENT OF THE TERRITORY**

In the search for new drivers to secure new competitive advantages, local areas have shown they have the potential for the creation and growth of infrastructure facilities suitable for development. For many local areas, therefore, competitive advantages are to be found in their unique and inimitable historic patrimony of resources and competences. This conviction of the validity of strategies based on the resources of local areas forms the basis for analyzing the Extended Hotel initiative as an integrated and innovative system of

---

<sup>12</sup> Castaldo S., Verona G.M. (1998), *Lo sviluppo di nuovi prodotti. Teoria e analisi empiriche in una prospettiva cognitiva*, Egea, Milano.

<sup>13</sup> Chan Kim W., Mauborgne R. (2005), *Blue Ocean Strategy*, Harvard Business School Press, Boston, MA.

<sup>14</sup> Pine J.B., Gilmore J.H. (2000), *L’economia delle esperienze*, Etas Libri, Milano.

touristic proposals and the result of the interconnection between resources and local areas in a way that respects the area's natural vocation.

Extended hotels can be defined as an innovative and original hospitality model characterized by strong links with the local community, a factor that is advantageous and helps differentiate it from other hospitality and touristic packages. This model aims at meeting the needs of today's tourists, combining elements of authenticity and spontaneity that derive from direct contact with the local culture and population, but with the added bonus of all the basic services of a traditional hotel.

The extended hotel is an innovative model of sustainable touristic development in local areas, as it becomes an instrument for transforming abandoned resources (restoring abandoned buildings and traditions) thus revitalizing the area, increasing competitiveness and above all making it more attractive, thanks to the positive impact on the area as a whole.

Local areas, as much as firms, have become the object of countless managerial studies, confirming that they are internal areas in which the combination of financial, physical and intangible resources can contribute to the creation of value, where by value we mean not just economic value, but any utility enjoyed by stakeholders (tourists, inhabitants, firms and local government). These stakeholders therefore, are both the creators and the consumers of the utility created through touristic activities. One particular analysis perspective concerns not only the impact of the social and economic network of relations on the development of receptive firms, but also focusses on specific types of firms that develop their core processes by means of external relations within small communities. These villages represent the historic memory of local areas, are the beating heart, the social foundation of the culture and traditions that can give life to various as yet unexpressed economic potentialities.

In fact, over the last few years in Italy, increased attention has been paid to the phenomenon of tourism in small towns and villages. In particular, tourism in small villages and towns enjoys a lot of press coverage, and is given significant visibility by specialized media and tourist guidebooks, reflecting the many changes taking place at a grass roots level, changes that are occurring thanks to ideas, planning and experience, in so far as there are small villages and towns everywhere whose touristic potential is still only partly fulfilled.<sup>15</sup>

Governments in other European countries have also started restoring old buildings in an attempt to promote rural development<sup>16</sup>. In fact, old castles, monasteries, farms and

---

<sup>15</sup> Butler R. W. (1998), Sustainable tourism-looking backward in order to progress?, In C. M. Hall, & A. A. Lew (Eds.), *Sustainable tourism. A geographical perspective*, New York: Addison Wesley Longman Ltd; Chambers R. (1988), Sustainable rural livelihoods: a key strategy for people, environment and development, in C. Conroy, M. Litvinoff (Eds.), *The greening of aid*, London: Earthscan Publications/IIED; Ellis F. (1998), Survey article: household strategies and rural livelihood diversification, *The Journal of Development Studies*, Vol. 35, n. 1; Hussein K., Nelson J. (1998), *Sustainable livelihoods and livelihood diversification*, UK: Institute of Development Studies, University of Sussex.

<sup>16</sup> Ashworth G., Larkham P. (1994), *Building a new heritage. Tourism, culture and identity in the new Europe*. London: Routledge; Pritchard A., Morgan N. (2001), Culture, identity and tourism representation: Marketing Cymru or Wales?, *Tourism management*, n. 22; Rogers S. (2002), Which heritage? Nature, culture and identity in French rural tourism, *French Historical Studies*, Vol. 25, n. 3; Ballesteros E.R., Ramirez M.H. (2007), Identity and community-Reflections on the development of mining heritage tourism in Southern Spain, *Tourism Management*, n. 28.

country houses have now been restructured to offer different types of accommodations. Some of these structures have enjoyed significant visibility as they have become an integrated part of the European market, such as the Paradores in Spain, Solares in Portugal and Gîtes in France. The close relationship between these villages and the local area means the villages can be used as development centers for a particular type of tourism that offers an alternative to the seaside-mountain formula, in an attempt to bring value to foothill areas outside the traditional tourism circuits. This kind of tourism offers solutions that have nothing to do with mass tourism and aim instead to satisfy the needs of single tourists, offering them the opportunity to enjoy a period of true relaxation, far from the frenzy of modern life, in harmony with the slow passage of time of rural life and in close contact with beautiful countryside, thus broadening the popular holiday concept expressed by 'agriturismi' and farmhouse holiday structures.

This new form of local tourism which has developed from the synergy created between many small villages in the same area, can offer increased visibility to specific traditions, meaning that traditional habits and customs are conserved and a specific commercial network is developed to promote local typical products and artisan specialties that would otherwise be lost. The effects of this new model of territorial tourism are significant. Apart from the obvious economic impact, there is also a significant increase in local employment opportunities, an element that is vital for the survival of small towns and villages whose young people tend to leave due to a shortage of jobs. Within this context of development and economic-touristic safeguard, Extended Hotels would appear to be a natural consequence of the revaluation of local artistic patrimonies and the restoration of various architectural assets such as places of worship, traditional homes and historic monuments. In this sense, the area's artistic and cultural patrimony is seen as an integral part of a specific touristic circuit which helps visitors appreciate and become familiar with assets that would otherwise go unnoticed.

Therefore, it is not only the owners or managers of Extended Hotels who benefit, as these people are facing a new, different challenge than that of managing a traditional tourist activity. The role taken on by these figures is much broader as they not only have to concern themselves with offering a touristic service but also an area and a lifestyle, and they come into contact with a wide range of different people, who are motivated very differently from tourists who choose holiday villages or traditional hotels. Managers can try an Italian approach to hospitality which is deeply rooted in the culture and territory of the various destinations. On the other hand, local communities have the chance to revitalize small villages and historic centers, with residents enjoying more services and a better quality of life, without their village or the surrounding countryside being disrupted.

## **EXTENDED HOTELS**

For some time now, the Italian hospitality model has been undergoing significant changes, so that today you can find not only traditional hotels, holiday villages and camping grounds, but also other hospitality models which pay more attention to the various areas' traditional products, environment and culture. The creation and growth of Extended Hotels, hotels that are not built but that evolve from a network of pre-existing houses, is part of this evolution of the Italian touristic model, which has been said to have created a 'vertical to horizontal' trend. It is an entirely Italian idea - a model Made in Italy.

The peculiarity and originality of new hospitality models, the prospect of finding an answer to the structural problems posed by the presence of numerous abandoned buildings, and all the other scenarios that could open up if the basic idea of Extended Hotels was adopted elsewhere, are all factors that have aroused a lot of curiosity on behalf of tourist operators and academics. It is not enough simply to define Extended Hotels as a different hospitality model: the various characteristics of the phenomenon must be analyzed so the know how and method of functioning can be passed on.

First of all, Extended Hotels are situated in historical-environmental contexts of interest. These areas are characterized by the availability of a number of disused buildings located close to each other, that are suitable for restructuring for hospitality ends, and that can provide accommodation, rooms, common areas, small breakfast rooms, and perhaps even a restaurant, offices and shops. Moreover, the area should be fairly accessible when compared to the main tourist route catchment areas and known for the production of some kind of local goods that will generate interest and popularity. The hospitality structure must be able to offer tourists and visitors: a pleasant lifestyle, walks and itineraries for excursions, free-time activities, food and wine festivals, markets and fairs where visitors can buy local specialties, visits to museums, castles, churches, and interesting cultural and gastronomic traditions. The resident population should be very attached to their traditions and gastronomy and enjoy a lifestyle that is typical of their particular area. The human resources and people directly involved in the development of the proposed model must not only be able to offer basic commercial, cultural and touristic services, but also services aimed at helping guests relax, rest, detach from their hectic lifestyle, and must be enthusiastic and have good ideas, and have objectives that include sustainability and quality, all of this with the aim of increasing citizens' and local tourist businesses' attachment to the village or town in question. The project acts as a driver for development because managers are encouraged to source all the products used in the hotel from local producers. Like a holiday apartment, extended hotels enable travelers to be part of village life, with the added bonus of all the basic services of a traditional hotel.

In terms of demand, extended hotels fulfill an 'original' and 'authentic' need. In other words, their target market is not tourists who want to visit the mass-tourism destinations of normal, stereotyped holidays. Instead they aim at somewhat sophisticated travelers and tourists who want not only to purchase a service, a product or a package, but real a way of life; which is why these tourists are defined 'temporary residents'.

Extended hotels, therefore, are not hotel structures built from scratch, but horizontal structures that aim to transform disused buildings within a small community into accommodations. 'Horizontal' because it is made up of a central structure (reception) and a series of small accommodation units (rooms), located in different nearby buildings, all situated close to the reception. The recommended requirements are: the ability to offer tourists the opportunity to be in close contact with residents, offer them real houses and an authentic experience of the area; respect the cultural environment through the restoration of the area's cultural and artistic patrimony, transforming abandoned assets into a resource; vary the value proposition, both ensuring the presence of basic services and incrementing them with commercial, cultural and touristic services, as well as providing a context of cultural and historic interest promoted by bodies or associations by means of traditional folk events.

In short, the model is aimed at a specific niche in the marketplace, and it requires significant managerial skills to satisfy the needs of such an involved and demanding target. Moreover, the resident population must be emotionally involved and willing to share their knowledge of ancient traditions and skills, and solid and structured relationships must be established between all operators along the chain from a production, organizational, technological, financial, logistical and commercial point of view.

### **HISTORY AND DESCRIPTION OF EXTENDED HOTELS**

The extended hotel model was developed in the 1980s following experiences in Carnia, and took off rapidly after the first awards arrived from the Region of Sardinia in 1988. The extended hotel model is today recognized by most Italian Regions and is influencing other forms of sustainable, extended hospitality that are being developed both in Italy and abroad.

The pioneering phase took place from the beginning of the 1980s to the mid 1990s, which was when the idea was originally devised and a number of projects were designed, only some of which were completed. During this period, all fundamental requirements were defined, that today allow us to view extended hotels as an original model for hospitality and hotel service management. During the next phase, from 1995 to 2005, there were various different attempts at creating extended hotels all over Italy, resulting in a number of functioning houses, some of which are still today considered important point of reference for the program. During this period, people also became more aware of the originality and the Italian roots of this model, and for the first time, an attempt was made to define norms for extended hotels.

Since 2006, the phenomenon has picked up speed, thanks in particular to the founding of the National Association of Extended Hotels (Associazione nazionale degli Alberghi Diffusi). The association presents such touristic business models as examples of the Made in Italy philosophy, and has encouraged many regional governments to establish suitable measures for the regulation of extended hotels; it has organized seminars and workshops with operators from within the sector who are interested in regulation and management aspects, and has promoted a media campaign both at a national and international level with the aim of sharing case studies of extended hotels.

Literature promoting extended hotels, news of successful projects spreading throughout the various regions in Italy and media interest have all contributed to an increased awareness of the value and unique qualities of extended hotels. 2008 brought an important award for extended hotels at a national level. On the 28th June, 2008, the Extended Hotel project received a reward from the United Nations Development Program for representing the best transferable practice for stimulating economic growth in developing countries. In 2010, there were various international press reports and articles published, securing more popularity for the extended hotel movement.

Experience gained over the last few years has shown how extended hotels represent a very flexible hospitality model and a type of holiday, when, under the right conditions of quality and service, has enormous potential if it continues to develop along the lines of the original model and retains its distinctiveness.

Extended hotels do not just offer a stay in a hotel, but something more particular and appealing. Staying in an extended hotel means experiencing the local area, experiencing a

village, enjoying a way of life, having an authentic experience. Extended hotels are generally made up of houses of value or houses particularly representative of a certain locale, that are steeped in local flavor within a context of environmental, historic and cultural interest. The houses are restructured and furnished so as to combine comfort and service with an authentic experience. For this reason, extended hotels are all very different from each other, each with its own history, its own identity, as is evident from the single houses that form them, from Tuscan farmhouses to mountain homes in the Alps or Appennines, from trulli in Puglia to Medici houses, and tower houses to manor farms. More so than other types of accommodation, extended hotels are an integral part of their local area, and part of the area's culture, traditions, and shared lifestyle. Extended hotels share the same roots as their communities, and are distinguished by the taste and passion of their managers. This is why when the touristic press talk of extended hotels, they talk of sentimental places and places that need to be shared and recounted. Extended hotels, therefore, are a model of local touristic development that enhance the value of their own local area, take pleasure in serving local recipes and produce, and whose limits are not formed by the physical walls of the hotel, of a building, but instead reach out to the surrounding area which is an integral part of the experience. This is why staying in an extended hotel makes a contribution to local sustainable development, and offers a way to experience the lifestyle of small Italian towns and villages (...)"

#### **AREAS TAKING PART IN THE PROJECT**

Presently extended hotels are a widespread phenomenon spread throughout the whole of Italy. However, the interest on behalf of operators within the sector is much greater than the number of existing structures would suggest. There are many projects still in progress, although most will not result in true extended hotels but rather in hybrid forms of extended accommodation. 75% of regional governments in Italy have chosen to adopt specific regulations regarding extended hotels. Some regions such as Sardinia, Liguria and Molise also provide specific incentives and grants for the starting up of this type of project. It is also worth noting that the region of Lazio also intends to include the business model for Extended Hotels in its territorial marketing plan for the next three years.

Extended hotels already operating in Italy are recognized when the owners or the managers of these accommodation structures are partners of the National Association of Extended Hotels, ADI. The association was formed with the following intentions:

- to promote all initiatives that advance this form of hospitality, to protect their image at a national level and to spread their use within the hospitality sector;
- to facilitate individual purchases between the members, through agreements with consortia, banks, private and public institutions, cooperatives and businesses and every other type of financial operator, in order to guarantee members favorable conditions for their professional and business activities; to manage common services directed at fostering tourism in Extended Hotels and the continuous qualification and professionalization of members' activities with respect to consumers and tourists;
- to hold study meetings, nominate technical commissions, call meetings among the operators in order to debate all the problems connected to the Extended Hotels'

economic and social spheres, including those regarding institutions for the promotion of tourism.

The type of hospitality and services offered by these structures are varied. Some structures offer wellness holidays, aiming at clients whose personal wellbeing is a priority; other types of structures are specialized in more active holidays, offering guests the possibility to take part in various sporting activities; others again offer offer gastronomic holidays on the trail of authenticity, tradition and tastes. In many structures there are spectacles and entertainment, or perhaps cooking or photography classes. In short, there are many different types of holidays on offer and all depend to some extent on the territory in which the structure is located.

More precisely, bearing in mind the characteristics of the areas taking part in the program, we can create a map of extended hotels in Italy. As of 31/12/2010, there are 35 extended hotels recognized by the National Association of Extended Hotels. Of these, nine are located in northern Italy; 12 in central Italy and 14 in the south, in Sardinia and in Sicily. Therefore, there are more of these projects in central and southern Italy, as very often in the past, small towns were abandoned in favor of life in the larger cities, and today locals are keen to inject new life into these uninhabited towns and villages. The structures present in northern Italy are concentrated in the Friuli Venezia Giulia region, as one of the first ever projects for an extended hotel was implemented there to revitalize various towns and villages that had been almost completely destroyed by the earthquake that hit the region in 1976.

As well as mapping territorial distribution, we can also highlight some tentative quantitative data, in as much as sources for data in the past were not particularly reliable as there were no specific regulations in place. In the first place, almost 80% of extended hotels are relatively new, that is, structures that have been functioning for five years or less. Around 40% of structures are situated in villages with a population of between 1000 and 5000, while 30% are in villages of 500 people or less.

There are a few noteworthy projects that deserve a mention for their particular authenticity and originality. For example, the structures in Molise (one of the most active regions in this sector) have agreements with local shops, producers and restaurants in the area for the sale and marketing of local products. Others follow particular themes. In Sardinia, for example, one extended hotel has musical instruments in all the rooms, and guests can participate in music classes and events. In Sardinia, the Extended Hotels administrative and planning headquarters, another structure whose rooms are all different from each other, offers personalized stays, with study, work and play groups, gastronomic breaks with traditional food and wine, and workshops on Sardinian cheeses. Moreover, in another extended hotel again, you'll find books in all the rooms, literary menus, and literary references everywhere from the names of the rooms to decor and furnishings, and there are even literary evenings organized.

## **CONCLUSIONS AND FUTURE IMPLICATIONS**

In conclusion, the adoption of the extended hotel model is a valid strategy for the economic development of an area or the territory. Moreover, through the identification of strategic resources and competences, the choice of this type of integrated model creates a synergy that derives from the interaction of sustainable competitive advantages. There are



many potential advantages to this hospitality model: a re-launching of local life and economy in small towns and villages, helping to reverse the effects of depopulation and social decay; increases in employment, increasing an area's touristic attractiveness, ability to promote an alternative way of life to that of the city, extending the tourist season.

The paper makes a good starting point for further research and development.

For extended hotels to become a more concrete option, it is fundamental to create a communication network for touristic promotion, not only at a local or regional level, but also at a national level. In particular, at an international level, ideally, such projects would be advertised as a typical Made in Italy product which would provide an alternative driving force for the relaunch of the sector. Moreover, the creation of a seal of quality would help tourists identify areas hosting extended hotels while increasing the level of collaboration between the various different territories and local governments.

Some projects run the risk of restructuring a number of empty, abandoned small houses without launching a serious project for the restoration and enhancement of the local patrimony, with actions aimed at revitalizing and organizing the territory in which it is situated, and making it more welcoming. One interesting managerial implication of extended hotels might consist in the realization of projects in seaside areas to help resolve the problem of the redevelopment of accommodation models, and the need to renew the types of hospitality on offer, and avoid the construction of new buildings, thus protecting the local environment and territory.

## REFERENCES

- Abell D.F. (1980), *Defining the Business Strategy: Starting Point of Strategic Planning*, Prentice Hall, Englewood Cliff.
- Ashworth G., Larkham P. (1994), *Building a new heritage. Tourism, culture and identity in the new Europe*. London: Routledge.
- Ballesteros E.R., Ramirez M.H. (2007), Identity and community-Reflections on the development of mining heritage tourism in Southern Spain, *Tourism Management*, n. 28.
- Butler R. W. (1998), Sustainable tourism-looking backward in order to progress?, In C. M. Hall, & A. A. Lew (Eds.), *Sustainable tourism. A geographical perspective*, New York: Addison Wesley Longman Ltd.
- Butler R.W. (1993), Tourism-an evolutionary perspective, in J. G. Nelson, R. Butler, & G. Wall (Eds.), *Tourism and sustainable development: Monitoring, planning, managing*, Waterloo: University of Waterloo Heritage Resource Centre.
- Castaldo S., Verona G.M. (1998), *Lo sviluppo di nuovi prodotti. Teoria e analisi empiriche in una prospettiva cognitiva*, Egea, Milano.
- Chambers R. (1988), Sustainable rural livelihoods: a key strategy for people, environment and development, in C. Conroy, M. Litvinoff (Eds.), *The greening of aid*, London: Earthscan Publications/IIED.
- Chan Kim W., Mauborgne R. (2005), *Blue Ocean Strategy*, Harvard Business School Press, Boston, MA.
- Chapman A., Speake J. (2011), Regeneration in a mass-tourism resort: The changing fortunes of Bugibba in Malta, *Tourism Management*, n. 32.
- Christensen C. (1997), *The Innovator's Dilemma*, Harvard Business School Press, Cambridge MA
- Cooper R. G., Kleinschmidt E. J. (1988), Resource Allocation in the New Product Process, *Industrial Marketing Management*, n. 17.
- Cotta Ramusino E., Onetti A. (2009), *Strategia d'impresa*, Il Sole 24Ore, Milano.
- Ellis F. (1998), Survey article: household strategies and rural livelihood diversification, *The Journal of Development Studies*, Vol. 35, n. 1.
- Farrell B., Twining-Ward L. (2004), Reconceptualizing tourism, *Annals of Tourism Research*, Vol. 31, n. 2.
- Freeman C. (1974), *The economics of industrial Innovation*, Penguin Modern Economics Text, Harmondsworth.
- Hussein K., Nelson J. (1998), *Sustainable livelihoods and livelihood diversification*, UK: Institute of Development Studies, University of Sussex.
- Liburd J. J. (2005), Sustainable tourism and innovation in the mobile tourism services, *Tourism Review International*, Vol 9, n. 1.
- Nelson R., Winter S. (1982), *An Evolutionary Theory of Economic Change*, Belknap Press, Cambridge.
- Palmer C. (1999), Tourism and the symbols of identity, *Tourism Management*, n. 20.
- Pellicano M., Ciasullo M.V. (2010) (Eds.), *La visione strategica dell'impresa*, Giappichelli, Torino.
- Pine J.B., Gilmore J.H. (2000), *L'economia delle esperienze*, Etas Libri, Milano.
- Plecher M., Rullani E. (2009), *Innovare. Reinventare il Made in Italy*, Milano: Egea.

- Pritchard A., Morgan N. (2001), Culture, identity and tourism representation: Marketing Cymru or Wales?, *Tourism management*, n. 22.
- Rogers S. (2002), Which heritage? Nature, culture and identity in French rural tourism, *French Historical Studies*, Vol. 25, n. 3.
- Stalk G., Evans P., Shulman L. (1992), Competing on capabilities: The new rules of corporate strategy, *Harvard Business Review*, marzo-aprile.
- Stamboulis Y., Skayannis P. (2003), Innovation strategies and technology for experience-based tourism, *Tourism Management*, Vol. 24, n. 1.
- Telfer D. J. (2002), The evolution of tourism and development theory, in R. Sharpley, D. J. Telfer (Eds.), *Tourism and development: Concepts and issues*, Clevedon: Channel View Publications.
- Wall G., Mathieson A. (2006), *Tourism: Changes, impacts, and opportunities*, New York: Pearson Prentice Hall.

---

# METHODOLOGIES FOR INTEGRATED QUALITY ASSESSMENT IN HIGHER EDUCATION INSTITUTIONS

Ana Isabel Carmona Pereira Louro, Beira Interior University, [d512@ubi.pt](mailto:d512@ubi.pt)

Luís Lourenço, Beira Interior University, [lourenço@ubi.pt](mailto:lourenço@ubi.pt)

Pedro Saraiva, Coimbra University, [pas@eq.uc.pt](mailto:pas@eq.uc.pt)

## ABSTRACT

The higher education institutions have been influenced along the time by several factors: economic, social or political, that has promoted the introduction of mechanisms of management and evaluation, which allows them to cope with contingencies they face. The assessment acquired a growing level of importance, particularly by the increasing concern about the needs of citizens, which promotes the proliferation of tools for measuring quality of services, and therefore the assessment of each person who provides such services.

The present project intends to conduct a comparative analysis of different methodologies for assessing quality in higher education in order to demonstrate that evaluation is an essential tool in the management process of organizations, occupying the evaluation of individual teacher's performance a major role in this scenario. Thus, the central objective of this research is to present a concrete proposal for developments and some preliminary results from its use.

This investigation seeks to add a contribution to the scientific community, either by observing the reality under study, and to help governing bodies to deal with evaluation in the search for continual improvement for its organization, maximizing available resources and therefore better management of public or private funds.

**Key-words:** Quality, Evaluation, High Education

---

## 1. INTRODUCTION

The alterations that have become established in the functions of the state, have meant that Public Administration has been assisted with methods to enable these changes, ultimately about the defense of citizen's rights and needs, with the aim of the effective prosecution of public business, guided by levels of efficacy, efficiency and quality (Rocha, 2006), where the evaluation of organizations occupies a prominent place, in that it is one of the motivators of strategy in an organization.

This is the evaluation's purpose, a subject that has been debated, in respect of the demands and alterations that operate internationally, within economic, political or social areas; in public or private organizations, together with the methodologies through which organizations can be helped to be effective, at an internal level (self-assessment) or externally (external evaluation), allowing the development of a strategic business culture and public service oriented toward the citizen/client, with the development of benchmarking, and so providing mechanism for institutional comparability, whether in macro (international scale) or micro (national or regional scales) terms.

In the last decade a reform tendency in the management model of public bodies has become helpful, which comes close to a model that is applicable to companies, namely with the application of tools of quality (Rocha, 2006). With their introduction, Public Administration in general wants to achieve objectives which will improve the decision-making process by making the process and execution more transparent. In this context, many different tools have emerged used by the institutions in the area of Quality Management, which have been progressively implemented. In this way, the introduction of concepts regarding quality, have imposed and continue to impose, until the process is standard, significant transformations at the level of the institutions information systems and the procedures of internal control that support these same information systems.

In respect of the world that is centered on Higher Education Institutions (HEI), it is important to study this subject with the aim of demonstrating that the process of evaluation of organizations should be done with rigour and equity to achieve levels of excellence, always bearing in mind the efficacy, efficiency and quality of the available resources.

This research project is intended, on the one hand, to measure the methodologies of quality assessment which have been used by HEIs at an organizational level, through processes of self-assessment or external assessment practices; and, on the other hand, to assess the role of the individual performance evaluation of teachers under the Teaching Career Statute.

Taking into account the multiplicity of references, procedures and practices of internal and external evaluation models of organizations, we hope to understand the interlinkages and complementarities

---

of the current systems in order to reduce asymmetries. Therefore, the central objective of this research is to investigate "The methodologies for integrated evaluation of quality in Higher Education Institutions", by supplying a questionnaire to all the Portuguese HEIs in order to be able to abstract what methodologies they practice and so focus on their application, as well to survey which role of individual performance evaluation of teachers by Regulations patents in the Individual Performance Evaluation of Teachers, trying to understand connections and complementarities, in order to verify how the evaluation of individual teachers is aligned with the vision of integrated quality in the institutions, and therefore the degree of knowledge that the main "actors" hold about that.

## **2. THEORETICAL FRAMEWORK**

The changes that have taken place over time in the public sector have brought alterations in the way of thinking about the management of organizations. In this sense, the reform movement known as New Public Management, launched in the United Kingdom and New Zealand during the 1980s, came to advocate the introduction of market mechanisms and the adoption of private management tools, promoting competition among providers of public goods and services in the expectation of improved service to citizens, as well as increased efficiency and the flexibility of management (Louro, 2008).

In Portugal, deregulation and decentralization of services, which started in the 1980s, led to this paradigm's adoption, after having taken an even more comprehensive reform with *Reforma da Administração Financeira do Estado* (government financial administration reform). Also the *Programa do XVII Governo Constitucional* (program of the XVII Constitutional Government) called for achieving an effective administration, and serving citizens and businesses, and recognized that the key to competitiveness of the Portuguese economy was called innovation: process innovation, innovation in products and services, technological innovation and innovation in organization and management. So to fulfill this program, the Government has developed a series of initiatives aimed at promoting citizenship, economic development and quality in public services, to improve the efficiency of the services rendered (AR, 2009).

Thus, public management is seen as a set of decisions intended to motivate and coordinate people, in order to achieve individual and collective goals, taking into account the legal and political constraints that condition and characterize public activity. (Utrilla, 1996).

The range of individual and collective goals in organizations leads to the need for an assessment in public services, assuming that this is a key element in the process of administrative modernization, acting as a safeguard of citizens' rights, representing an important contribution to improving the operation of public organizations, and consequently, the greater accountability of public managers.

---

According to Pollitt (1998), it is an activity that allows you to modify and improve public policies and programs, improve responsiveness to users, improve the distribution of resources, demonstrate accountability to the community, strengthen authority and the powers of supervision, and legitimize the administration as an innovative activity, which presupposes the recurrence of quality management tools.

The need to evaluate is closely linked to the concept of quality. Only in the 1980s did it begin to be applied more systematically to Public Administrations, by adopting the paradigm of the orientation of services for citizens. Quality is thus interpreted as one of the most recent ethical concerns of Public Administration. Quality management is a response to the questioning of an Administration as an effective institution, as an organization providing services to citizens who expect public organizations as a whole to answer their needs (Villoria, 1996).

In order to achieve total quality, there are three principle models of quality management: ISO 9000, quality charters, and models of excellence, serving the same purpose: to renew people's confidence in public service (Bovaird, and Loeffler, 2003) and to promote excellence in public organizations. The Total Quality Management is regarded by many authors (Bueno, 2004; Caravantes et al. 1997; Deming, 1990) as a management strategy, that must be aligned with the business strategy of the company, which implies "doing things in a different way" in order for improvement to continue (Saraiva, 2003).

The emphasis on modernization of public administration has led to the entities to rely increasingly on quality tools, advertising in its strategic plan this need and this objective, the purpose being to reduce bureaucracy and simplify processes and procedures, to achieve greater efficacy and efficiency in public services, for this improvement to continue and, as a consequence, to achieve organizational excellence.

### **3. LITERATURE REVIEW**

Public Administrations are increasingly being challenged by reforms that have taken place at an international level and there is a growing concern about satisfying the stated and implied needs of citizens, which has encouraged the emergence of tools that can measure organizational performance, in the sense of continuous improvement and providing a better public service.

Over the years several models of Public Management have emerged, often associated with changes in the conception and ideology of the state, with reforms to models being continually implemented in order to reflect the ideas that underlie methods of economic, political and even social organization. As a result the model of legal or bureaucratic administration, the model of professional

---

administration, the model of political management, with the public choice theory, the managerial model, similar to the new public management and governance as a new approach have all emerged (Rocha, 2001).

Speaking of public management involves talking about the role of the state and its evolution: the state after the Second World War was used to intervene, for streamlining, organizing and systematizing the economies of countries, from a state that was restricted to ensure public order, administration of justice, defense and public works, to a state that guarantees health services, education and social security, structures that were previously left to other organizations. The extension of state functions that arose led to the welfare state. The huge structural and human scale meant that there was a “slippage” on public finances, resulting in a loss of competitiveness of public institutions, in comparison with the private. Following this a new paradigm of public management emerged, the new public management<sup>1</sup>, a management model inspired by business (Ribeiro, 2000).

The use of a business view for management models in public administration with the acceleration of change evident in the fields of technology and business opportunities (stimulated by market liberalization and globalization) forced all sorts of organizations to consider innovation in all its aspects, particularly as regards the adaptation of management practices, such as reengineering, total quality management or repositioning in the value chain, given the new conditions. In line with this trend, and since the government gradually ceased to be protected from competition (due to the liberalization of markets), and has come under increasing pressure to improve services and reduce costs (by budget constraints), it became advisable to apply some of these techniques to the environment of public administration management (Dobyns and Crawford, 1994).

Therefore, from the 1980s the concept of quality has been introduced more systematically into Public Administrations, through the paradigm of the orientation of services for citizens. Quality is thus interpreted as one of the most recent ethical concerns of Public Administration. Quality management is a response to the questioning of Administration as an effective institution, as an organization providing services to citizens who expect public organizations to have answers for their needs (Villoria, 1996). Several authors have focused on the quality of public services and the various instruments of the quality, of the relationship between them, as well as on the possibilities and constraints inherent in quality of the services (Domingues, 2004).

The investigation of quality management in organizations requires, ultimately, the analysis of the direct and indirect effects it has on levels of performance (Saraph, et. al. 1989; Choi, 1995; Goster

---

<sup>1</sup> Pollitt (1998) compares the New Public Management to a shopping trolley, where each country chooses how to fill it with the features of the public sector and the values they wish to promote.



---

and Squines (2003), with instruments capable of measuring the impact of practices, being a process of verification and not proof of customer expectations, meaning the departments have the need to learn from the customer experience and are able to ensure that this learning drives organizational improvement (Gronroos, 1996).

In turn, the quality of service can be seen by customers through its tangibility - the service is what the customer sees and feels, which includes the physical appearance of the workplace, as well as through its intangibility, in terms of the friendliness and hospitality of those who deal with the public (Ansu et al., 2005), since the services make specific demands, whether they are of a public or private nature. So there must be a perceived need to provide services with excellent quality, where customer perceptions about service quality are continually monitored in order to identify the causes of any gaps that may be encountered to achieve continuous improvement (Zeithaml, et al., 1990).

With the evolution of customer expectations in terms of quality, beyond the products, it is important to pay attention to the quality of services, characterized by care services, transportation and tourism, both publicly and privately. A public service is a service of interest to the whole community, seeking the "common good". Quality can thus be understood on many levels, especially as regards the services sector, and therefore public services, and they should give some thought to this subject. The quality of public services can be understood as a management philosophy that will achieve greater effectiveness and efficiency of services, reducing bureaucracy and simplifying processes and procedures and meeting the stated and implied needs of the citizens (from Portuguese Decree-Law No. 166 - A/99, art. 3).

This satisfaction of the citizens' implicit and explicit needs is possible only if there are mechanisms that allow organizations to carry out strict management of their resources, by defining their mission, vision and values in order to achieve the objectives outlined in the defined strategy. In this sense it is important for organizations to apply management tools that enable them to assess this, but also to enable a self-assessment, in order to foster the strengths and improve less desirable situations.

Striving for excellence in services and measurement of their quality has been a strategy used to obtain a "competitive advantage". In this context, and over the years, several models have been developed with the aim of evaluating the quality of services, among which the model of the 5 Gaps (Parasuraman et al., 1985), the SERVQUAL model (Parasuraman et al, 1988) and the SERVPERF model (Cronin and Taylor, 1992), and the use of BSC, EFQM model or the CAF stand out, together with the International Quality Audit program promoted by the EUA (Association of European Universities) or by accreditation and quality assessment systems.

---

The development of a specific methodology or program depends overall on the organizational objectives. Thus, one can say that the quality assessment may have very disparate objectives. According to Amaral (1997), these range from increased efficacy and organizational efficiency to the justification for the allocation of resources by the state or improvement of the quality of an institution or course.

The application of such tools at the HEIs level has taken shape over the years, nationally and internationally, with a concern to adapt these tools to the specific circumstances and particular environment. A number of factors, common to several countries, contributed to this expansion, including increased enrollment in secondary education, and the political, economic and social impact of recent decades which have led to new public universities, polytechnics and the development of private higher education institutions.

In the national (Portuguese) context, it has taken a long time for quality to be valued and have a greater impact, with the legislature addressing the matter, from the consecration of the rights and duties in education, recommended in Articles 73 to 76 and 164 to 169 of the Portuguese Constitution, through Law No. 108/88 of September 24th, which specifies the University Autonomy Act, Law 54/90 of September 5th that endorses the status and autonomy of the Polytechnic, and includes the Legal Regime of the HEIs and the Statute of the Teaching Career.

#### **4. CONCLUSION**

Quality and the guarantee of quality are the responsibility of higher education institutions, so that the structures and mechanisms for quality assurance should be the first stage of the internal review processes and the active participation of all stakeholders of the organization should be encouraged. There is also the external evaluation, which has grown to meet the requirements of the social dimension that higher education now occupies.

Because of legal obligations, HEIs often undertake evaluations without proper planning, which means they fail, damaging the institution's image for various stakeholders. For this reason, having identified the methodologies that each institution develops, the resources available and the results achieved, it would be relevant to identify some courses of action and to indicate recommendations so that the best possible results could be achieved with minimal resources through the use of tools for quality assessment.

These tools represent a milestone in the development of mission of organizations, in the case of this study, the HEIs. Therefore, after conducting the literature review, it appears that the main advantages of the Self Assessment can be summarized in managing change and maximizing the organizational strategy. A process of self-evaluation allows the construction of an overview of activities and

---

processes developed by the organization, facilitating the verification of resources used, thus enabling the identification of areas that need improvement and which should be given priority. In turn, self-assessment enables an organization to better manage its assessment, in terms of indicators that are helpful or at the level of process implementation, from which the Regulations of the Evaluation of Individual Teachers will take part.

It is important to note that the processes do not always proceed smoothly, with some limitations or obstacles to its implementation, such as the resistance to change, the organizational culture or the lack of information, communication and training about them by the “actors” involved.

## **5. BIBLIOGRAFIA**

ANSU, A., ZENCKNER, C. e GODOY, L. (2005), “Percepção da qualidade dos serviços de odontologia”. XXV Encontro Nacional de Engenharia de Produção. Porto Alegre, 29 Out a 01 de Nov.

AMARAL, A. (1997), “Sistemas Europeus de Avaliação da Qualidade”, Revista Portuguesa de Gestão, II 97, 19-32.

ASSEMBLEIA DA RÉPUBLICA (AR) (2009), “Projecto de Resolução Nº 414/X – Criação e desenvolvimento de uma Fábrica de Ideias na Administração Pública”.

BOVAIRD, T e LOEFFLER, E . (2003),”Public Management and Governance”, London: Routledge.

BUENO, M. (2004), “Gestão pela Qualidade Total: uma Estratégia Administrativa”, Universidade Federal de Santa Catarina.

CARAVANTES, G. ; CARAVANTES C.; BIJUR, W. (1997), “Administração e Qualidade: a superação dos desafios”, São Paulo: Makron Books.

CHOI, T. (1995), “Conceptualizaing continuous improvement: Implications for organizational change”. Ómega, (23), pp. 607-624.

CRONIN, J. E TAYLOR, S. (1992), "Measuring service quality: A reexamination and extension", Journal of Marketing, 52; pp. 55-58.

DECRETO-LEI Nº166A/99. DR-I-A-1º Suplemento I-A Série.111 (99-05-13)

DEMING, W. (1990), “Qualidade: a revolução da administração”, Rio de Janeiro: Marques-Saraiva.

---

DOBYNS, L. e CRAWFORD, C. (1994), “Thinking About Quality: Progress, Wisdom, and the Demming Philosophy”, New York, Times Books/Random House.

DOMINGUES, I. (2004), “Qualidade nos Serviços Públicos: Constrangimentos e Possibilidade”, Revista Episteme. Lisboa: Universidade Técnica, nº 13 e 14: 225-242.

GOSTER, L. e SQUINES, A. (2003), “Providing quality in the public sector: a practical approach to improving public services”. Philadelphia: Open University Press.

GROONROOS, C. (1996), “Relationship marketing: the strategy continuum”. Journal of the Academy of Marketing Science, 23, (4), pp. 252-254.

LOURO, A. (2008), “A Conformidade e a Fiabilidade da Informação Contabilística nas Instituições de Ensino Superior”, Braga: Universidade do Minho, Dissertação de Mestrado.

PARASURAMAN, A., ZEITHAML, V. e BERRY, L. (1998), “SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality”, Journal of Retailing, Vol. 64, nº 1, pp 12-40.

PARASURAMAN, A., ZEITHAML, V. e BERRY, L. (1985), “A conceptual model of service quality and its implications for future research”, Journal of Marketing, Vol. 4, nº 4, pp 41-50.

POLLITT, C. (1998), “Papeis alternativos para a avaliação no processo de reforma da gestão pública”, I Encontro Instituto Nacional de Administração.

RIBEIRO, M. A. (2000), “O serviço público na União Europeia. Reforma do Estado e Administração Pública Gestonária”, Lisboa : ISCSP – Fórum 2000.

ROCHA, A. (2006), “Gestão da Qualidade, Aplicação aos Serviços Públicos”, Lisboa: Escola Editora.

ROCHA, A. (2001), “Gestão Pública e Modernização Administrativa”, Oeiras: Instituto Nacional de Administração.

SARAIVA, M. (2003), “Gestão da Qualidade Total - Uma Proposta de Implementação no Ensino Superior Português”, Lisboa: ISCTE, Tese de Doutoramento.

SARAPH, J.; BENSON, G. e SCHROEDER, R. (1989), “An instrument for measuring the critical factors of quality management”. Decision sciences, (20), pp.810-829.

UTRILLA de La HOZ, A. (1996), “El principio del devengo y la Gestión pública”, Presupuesto Y Gasto Publico, n.º 20, Ministério de Economia y Hacienda, Instituto de Estudos Fiscais.

---

VILLORIA, M. (1996), “Modernización Administrativa y Gobierno Burocrático”, In La Nueva Administracion Pública, pp. 98.

ZEITHANL, V., PARASURAMAN, A. e BERRY, L. (1990), “Delivering Quality Service: balancing customer perceptions and expectations.”New work: The free press.

# **METHODOLOGICAL IMPROVEMENT FOR HIGHER ENVIRONMENTAL EDUCATION: A FLEXIBLE APPROACH**

Nataša Petrović, Mirjana Drakulić, Sonja Iščjamović, Veljko Jeremić, Ratimir Drakulić

*Faculty of Organizational Sciences, University of Belgrade*

## **Abstract**

*Successful implementation of sustainable development concepts at the higher education level requires that undergraduates from higher learning institutions receive adequate environmental education and training in this field. This is because, environmental education fosters skills and habits that students can use throughout their lives to understand and act on sustainability topics. In the recent past, most of those institutions around the world have incorporated environmental issues in their curricula. In order to satisfy the specific needs of sustainable development implementations, higher learning institutions need to use new technologies to facilitate environmental education. The flexible learning approach used at Faculty of Organizational Sciences, University of Belgrade is one of these valuable tools. This paper introduces some of the key concepts of flexible learning and investigates how they can be effectively used in higher environmental education for sustainable development.*

*Keywords: Sustainable development; Environmental education; Flexible learning*

## **1. Introduction**

All living beings on the Earth live in interaction in a certain environment. Environment can be defined as a group of all the factors that affect the physical, biological, socio-psychological, socioeconomic and cultural life of an individual or society. On the other hand, human economy depends on the Planet's natural capital that provides all ecological services and natural resources. As a result of population growth and economic development, humans have exerted a considerable impact on the Earth and have become seriously incompatible with natural

resources, environment and economy. At the same time, as outcomes, environmental problems appear as one of the greatest problems of the 21<sup>st</sup> century. The rapid technological advancements and industrialization have resulted in an increased level of negligence and insensitive behavior, leading to the destruction of environmental balance (Cetin and Nisanci, 2010). Population growth demands a new concept of development – one that is sustainable and that takes into account the satisfaction of the needs and desires of every citizen of the Earth, of the pluralism of societies, but also the balance and harmony between humanity and the environment. The implication of this ecological situation is obvious: to be sustainable, human beings must live within nature's carrying capacity; and they must measure where they are now and how far they can go (United Nations, 1972). Many authors agree that good environmental education is crucial for achieving sustainable development (e.g. McCormick et al, 2005; Chawla, 1988).

Environmental education nowadays is more and more focused in a perspective of sustainability to promote, not only the fundamental environmental knowledge, but also the behaviors, the strategies and the actions that can really reconvert our development models and our lifestyles. The goal of environmental education is to produce a population aware of the environment and concerned about problems relating to this concept. Environmental education is based on the knowledge, skills, attitudes, motivations and commitment of individuals and collectives willing to deal with the current environmental problems, finding solution to them as well as preventing the new ones. Environmental education implies a brand new style of life, new ethical and cultural values and responsible persons. At its core, environmental education strives to engage the global citizenry in new ways of thinking and acting in, with, and for the environment (Carleton-Hug and Hug, 2010). Environmental education can be defined as "learning to protect and improve environment in a systematic, planned and knowledge-based way during the whole human lifecycle in order to spread awareness about basic characteristics of environment, its structures and relationships that tends to make a human who protects and improves the environment in a way that will ensure humans' existences now as well as in the future" (UNESCO, 1998).

Higher environmental education is learner-centered, providing learners with opportunities to construct their own understandings through hands-on, minds on investigations. Learners are

engaged in direct experiences and are challenged to use higher-order thinking skills (Petrović and Milićević, 2006; Petrović and Milićević, 2007). Higher environmental education development emphasizes skills and habits that students can use throughout their life, in order to understand and act on environmental issues. Ultimately, it is about decision-making, critical thinking and citizenship, including acting as an environmentally literate citizen that involves adopting actions that reduce environmental stresses or affecting some conservation target (Heimlich, 2010). Higher environmental education improves students' awareness and understanding of sustainable development and most importantly, way to develop and implement preventive strategies to respond to environmental problems in the context of environmental protection and sustainable development in their own communities and regions (McCormick et al., 2005). What has to be offered in the program of good higher environmental education is interconnected with the wide range of requirements in professional life; therefore the program of higher environmental education is designed to meet these new sustainability challenges, by integrating inputs from the social and human sciences into the study of environmental planning and engineering, and by enabling them to visualize the engineers' task from environmental perspectives (Gutierrez-Martin and Huttenhain, 2003; Petrović and Milićević, 2006; Petrović and Milićević, 2007). The focus of such kind of education is to identify the behavior that is causing a threat on an environmental condition and then to see whether education alone is enough to alter behavior or whether it needs to be tied to another strategy (e.g. subsidies) in order to arrive at the desired behavior (Crohn and Birnbaum, 2010).

A number of courses of higher environmental education and a number of initiatives to integrate environmental issues into university curricula have been launched in the past decade worldwide. However, to satisfy the specific needs of this kind of education is to implement innovative methods of delivering such knowledge for sustainability. Higher environmental education through the flexible learning approach used at Environmental Management course at Faculty of Organizational Sciences, University of Belgrade, Serbia is one such innovative method, (Isljamovic, 2009a; Isljamovic 2009b; Jeremic 2010).



## **2. Methodology of higher environmental education**

Previous studies have shown that introductory university level environmental studies classes can improve students' environmental literacy (McMillan et al., 2004). Also, many educators feel that they should not only teach the science, but also engage students and encourage positive responsiveness about the environment (i.e., Mason and Santi, 1998; Cross and Price, 1999; Lester et al., 2006). Further, on, successful learning requires a change in attitudes to education both in the teacher and in the learner (Kostova and Atasoy, 2008). Therefore, good higher environmental education:

- Is learner-centre, providing students with opportunities to construct their own understandings through hands-on, minds-on investigations;
- Involves engaging learners in direct experiences and challenges them to use higher-order thinking skills as supportive of the development of an active learning community where learners share ideas and expertise and
- Prompt continued inquiry provides real-world contexts and issues from which concepts and skills can be used (NAAEE, 1996).

The learning targets of education for sustainable development must be translated into learning targets and objectives to be pursued in educational interventions which deal with sustainability in terms of knowledge in terms of attitudes in terms of behavior – adopting sustainable behavior (Krathwool, 1964). These characteristics, when applied in conjunction with the below mentioned objectives and aims for higher environmental education have allowed environmental educators to develop programs that lead to the formation of positive beliefs, attitudes and values concerning the environment as a basis for assuming a wise stewardship role towards the Earth (see Table 1).

Objectives			Aims
Knowledge	Skills	Values	
<ul style="list-style-type: none"> <li>○ The resources of the Earth, particularly soil, water, minerals, etc., and their distribution and role in supporting living organisms.</li> <li>○ The implications of the resource distribution in determining the nature of societies and the rate and character of economic development.</li> <li>○ The role of science and technology in the development of societies and the impact of these technologies on environment.</li> <li>○ Cooperative international and national efforts to find solutions to common global issues, and to implement strategies for a more sustainable future.</li> <li>○ Processes of planning, policy-making and action for sustainability by governments, businesses, non-governmental organizations and the public.</li> </ul>	<ul style="list-style-type: none"> <li>○ Frame of appropriate questions to guide relevant study and research.</li> <li>○ Define such fundamental concepts as environment, community, development and technology, and apply definitions to local, national and global experience.</li> <li>○ Assess the nature of different bias and evaluate different points of view.</li> <li>○ Develop hypotheses based on balanced information, critical analysis and careful synthesis, and test them against new information and personal experience and beliefs.</li> <li>○ Develop cooperative strategies for appropriate action to change present relationships between environmental preservation and economic development.</li> </ul>	<ul style="list-style-type: none"> <li>○ An appreciation of the dependence of human life on the resources of a finite planet.</li> <li>○ An appreciation of the role of human ingenuity and individual creativity in ensuring survival and the search for appropriate and sustainable progress and an appreciation of the power of human beings to modify the environment.</li> <li>○ A respect for other cultures and recognition of the interdependence of the human community, and a concern for disparities and injustices, a commitment to human rights and to the peaceful resolution of conflict.</li> <li>○ An appreciation of the challenges faced by the human community in defining the processes needed for sustainability and in implementing the changes needed, but also a personal acceptance of a sustainable lifestyle and a commitment to participation in change.</li> <li>○ An appreciation of the importance and worth of individual responsibility and action.</li> </ul>	<ul style="list-style-type: none"> <li>○ Acquire skills for assess and apply complex management concepts in order to solve today and tomorrow's environmental challenges.</li> <li>○ Gain knowledge in environmental sciences and their practical application</li> <li>○ Combine a theoretical orientation with practical project work.</li> <li>○ Understanding of the social and political implications of planning and management within the environmental field.</li> <li>○ Understanding of the relationships between companies and stakeholders, the environmental challenges facing businesses operating on international markets, and an introduction to various types of environmental regulations.</li> </ul>

*Table 1. – Objectives and aims for higher environmental education (NAAEE, 1996)*

### **3. Flexible approach in higher education**

In recent years, open and distance learning have gone through three generations. The first generation was correspondence teaching where a single medium, such as a text, is used in conjunction with the postal service as a means of delivery. The next generation involved multimedia distance learning, where text-based material is supplemented by interaction with the instructors either in face-to-face settings or via technologies such as electronic mail. The third and most recent generation is interactive multimedia distance education, where heavy emphasis is placed on the use of information technology to facilitate the communication. The last generation is the flexible learning generation.

Flexible learning represent concept that prioritizes learner control over the requirements of institutional practices. Flexible learning focuses on how the students will engage in learning activities in terms of the options available to them and also how such activities can be supported (Taylor and Joughin, 1997). In the traditional face-to-face learning and distance learning methods, little attention may be paid to the actual learning activities of the students. Flexible learning can be regarded as an approach that builds upon the traditional face-to-face learning methods and distance education practices whilst giving high priority to learner control.

Fundamental characteristics of flexible learning must include (Toohey, 1999; Ramsden and Dodds, 1989; Gibbs, 1999):

- style of learning,
- learning goals,
- content,
- forms of teaching,
- delivery methods,
- entry qualifications,
- start/finish times,
- location,
- form of assessment.

Any or all of the characteristics listed above would identify a system of flexible learning. Several teaching and learning methods have to be used in the course based on flexible learning, (Figure 1). The course relies upon directed study, reading, and activities using a print-based study guide and reader. It also includes face-to-face lectures or other on-campus sessions. Third, it incorporates Web-based activities using the Internet and on-line communication.

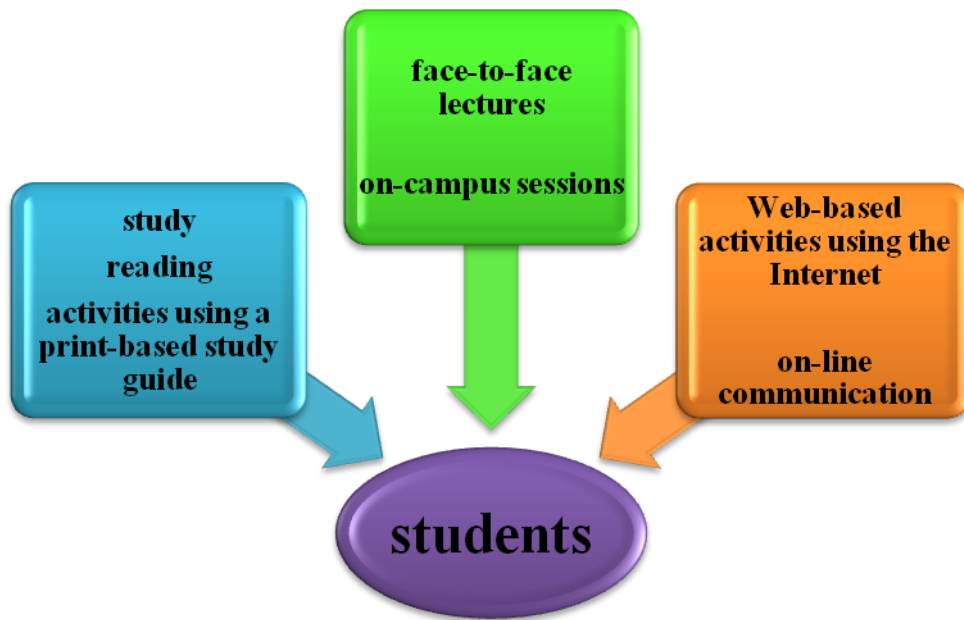


Figure 1. Teaching and learning methods of flexible learning

Web-based resources implemented on Moodle platform, facilitates students' choice as to how, when and where they learn, and they provide multiple access points to information as well as access to multiple sources of information. This can facilitate student choice as to the focus and sequence of their learning activities.

#### **4. Methodological improvement of Environmental Management course –a flexible approach**

At the Faculty of Organizational Sciences, University of Belgrade, numerous courses (such as Environmental Management, Design for Environment, Eco-Marketing, and Environmental Law etc.) are focused on environmental issues. Unlike on others, whose are elective courses, on the Environmental Management course that is an obligatory course, a framework and a curriculum for good higher environmental education are developed and applied. In addition, we selected this course because it is based on wide range of scientific and practical knowledge of environmental science and management as good benchmarks for the adequate improvement of students' environmental awareness. Because, on this course is applied learner-centre and action-oriented learning about ecology, management within the environmental field and sustainable development. All of this with foundations of active learning - where educators are mentors and facilitators and students teach each other, (Petrovic, 2010; Petrovic 2011). These experiences promoted higher order thinking and provided a cooperative context for learning and evaluation. Also, the purpose of this course is to orientate the student to the basic discipline of environmental management and as a result this course places an emphasis on the basic skills, tools and techniques and environmental perspectives needed to facilitate successful and meaningful environmental management and to promote the concept of sustainability. To develop the student's understanding and insight into the skilful application of a wide variety of environmental dimensions, fields and environmental skill, tools and techniques in order to facilitate informed decision making based on sound information and expert judgment spanning a wide variety of scientific disciplines.

The Environmental Management course at Faculty of Organizational Sciences in the conventional mode consists of 4 lecture hours per week over a 13-week session. Therefore, students learning through the flexible model can expect to spend 2–3 hours more per week studying the materials, in addition to the time required for assignments, (Petrovic, 2010; Drakulic, 2010).

Students enrolled in flexible model of this course are required to attend certain on-campus sessions during the semester. This is a compulsory part of the course and consists of lectures, tutorials, group projects, site visits, video presentations, and consultation with academic staff. During these sessions, students receive an opportunity to listen to various government and industry experts in ecology, sustainable development, perform hands-on exercises on environmental protection, study national and international case studies, and visit industrial facilities. This approach also provides opportunities for the students, especially from the to form a network among themselves. Regardless of their choice, all students enrolled on the Environmental Management course are provided with a learning package at the beginning of the semester, which consists of:

- a study guide containing key concepts, activities and references to readings;
- a reader consisting of a set of readings from books and journals;
- an assessment booklet outlining the assessment requirements;
- a study skills booklet describing essential study methods.

Environmental Management course incorporates web-based resources which are best used for organization, communication to support self-directed learning, and as a means of providing multiple perspectives and alternative viewpoints. Their use facilitates students' choice as to how, when and where they learn, and they provide multiple access points to information as well as access to multiple sources of information. This can facilitate student choice as to the focus and sequence of their learning activities.

The Web site developed for Environmental Management course includes "upfront" information (course information, study chart, assessment schedule, teaching team, resource lists) and features such as a site map, noticeboard, FAQ (Frequently Asked Questions) list, forum, real-time discussion (chat), glossary, and search facility. All these tools enhance the students' learning experiences with stimulating exercises, real-world simulations, ready access to data in external Web sites, and communication with peers and mentors.

One of the characteristics of flexible learning is to allow the students to determine their own learning goals. Students are strongly encouraged to focus on an area of their choice for paper, project. During Weeks 1 to 5, there is a weekly lecture to introduce the course and to cover the whole content of the course on a broad basis. It is expected that students will develop an interest in one of the areas covered in the modules to examine in the project. The project title, which will be chosen by the student based on the course modules and with approval from the lecturer, must be finalized by the end of Week 4. During Weeks 6 to 10 of the semester, weekly lectures are replaced by weekly communication between the student and the lecturer either in person or by email. Students continue to work on the project and should submit the project proposal by the end of Week 7. Peer review of the project proposal takes place in Weeks 8 and 9. In Weeks 11 to 12, the class reconvenes for student oral presentations on the first draft of the project report. Students receive further feedback from the lecturer and from peers to rework the project into a final project report.

Assessment for the course is based on completion of three assignments:

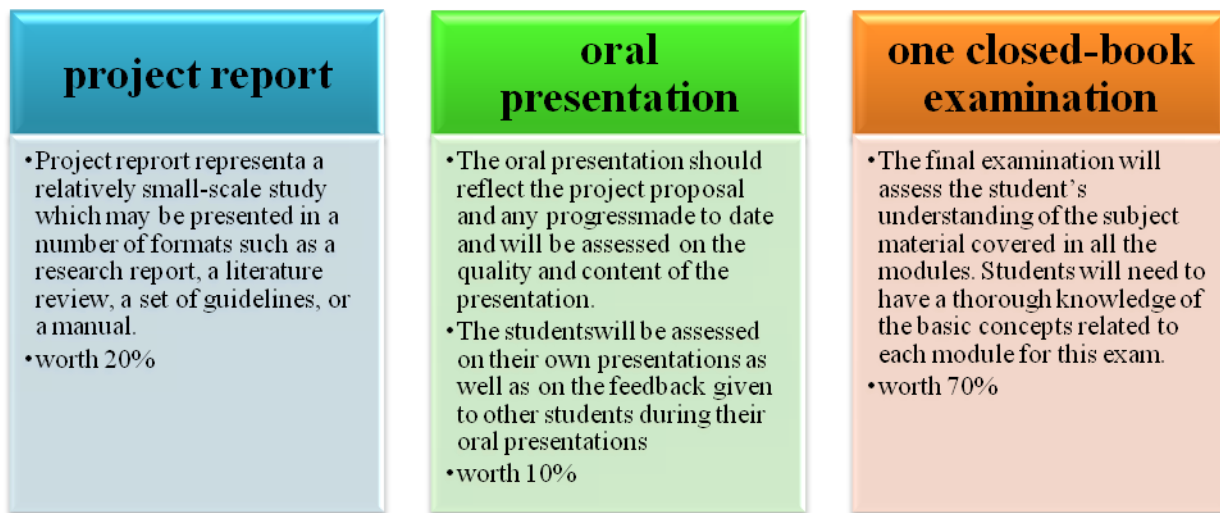


Figure 2. Three assignments on course

At the completion of this course, students should be able to: have knowledge and understanding of: the nature and function of ecosystems and how they are interrelated, the impact of people on environment, the role of the community, politics and market forces in environmental decision

making, the principles of ecologically sustainable development, career opportunities associated with the environment; have skills for: applying technical expertise within an environmental context, identifying and assessing environmental problems, communicating about environmental problems to others, resolving environmental problems, adopting behaviors and practices that protect the environment, evaluating the success of their actions and to values of: a respect for life on Earth, an appreciation of their cultural heritage, a commitment to act for the environment by supporting long-term solutions to environmental problems.

## **5. Conclusions**

As stated over thirty years ago, "... we are at that point in time when rhetoric and opinion must be substantiated by consolidating existing research efforts and focusing future efforts... we must now be about the business of validating the assumptions and utilizing a research base if environmental education is to continue to advance." (Voelker, 1973). Roth (1976) expressed the need for continued development and strengthening of environmental education programs through evaluation of such programs, because it is recognized the need for increased sophistication of methods and techniques used in empirical research involving environmental education. Further on, training and education in a field of environmental education, especially environmental management, environmental protection and sustainable development have become essential for most professions.

The Environmental Management flexible-learning course has received extremely positive feedback from students. So, the flexible learning approach should be more widely explored by universities and other higher learning institutions to train students in environmental management.

This paper has aimed to build a learning path in which environmental education and education for sustainable development contents are developed and proposed using flexible models, following teaching proposals which creates a synergy between the features of the learning object and the potential of the teaching tool used, to offer learners rich, articulated and customizable educational paths.



## References

- [1] America Association for Environmental Education, (1996), *Environmental Education Materials: Guidelines for Excellence*, NAAEE, Rock Spring, GA.
- [2] Baltic agenda <http://www.baltic21.org/?publications,1#83>
- [3] Biggs, J., (1999). What the student does: teaching for enhanced learning. *Higher Educ Res Dev*;18(1):55–75.
- [4] Chawla, L., (1988). *Children's concern for the natural environment*, *Children's Environments Quarterly*, 5(3), 13-20.
- [5] Drakulić, M., Krivokapić, Đ., Drakulić, R., (2010). Ekološko pravo, WUS Austrija, Poljoprivredni fakultet, Fakultet organizacionih nauka.
- [6] Gibbs, G. (1999). Using assessment strategically to change the way students learn. In: Brown S, Glasner A, editors. *Assessment matters in higher education*. Buckingham: The Society for Research into Higher Education and Open University Press.
- [7] Gulcan C., Seda, H.N., (2010). *Enhancing students' environmental awareness*, *Procedia Social and Behavioral Sciences* 2, 1830–1834, Elsevier.
- [8] Išljamović, S., Jeremić, V., Jovičić, S., (2009a). Primena statističkih metoda u cilju utvrđivanja ekološke svesti studenata Univerziteta u Beogradu, SYM-OP-IS 2009, Ivanjica, Serbia.
- [9] Išljamović, S., Jeremić, V., Petrović, N., (2009b). Ekološka svest studenata Univerziteta u Beogradu, SPIN 2009, Beograd, Serbia.
- [10] Išljamović, S., Jeremić, V., Petrović, N., (2010). Merenje “dobrog” ekološkog obrazovanja, SYM-OP-IS 2010, Tara, Serbia.
- [11] Jeremic, V., Isljamovic, S., Petrovic, N. (2010). A one concept for measuring results of environmental education for sustainability: ecological footprint, 13th Toulon-Verona Conference, Organizational Excellence in Service, Coimbra, Portugal.
- [12] Krathwohl, D.R., Bloom, B.S., Masia, B.B., (1964). *Taxonomy of educational objectives: Handbook II: Affective domain*. New York: David McKay Co.
- [13] NEEAC, (1996). *Report Assessing Environmental Education in the United States and the Implementation of the National Environmental Education Act of 1990*, NEEAC, Washington, DC.
- [14] North America Association for Environmental Education, (2002). *Guidelines for Excellence in Non formal Environmental Education Program Development and Implementation*, (draft) NAAEE, Rock Spring, GA.
- [15] Petrović, N., Išljamović, S., Jeremić, V., Vuk, D., Senegačnik, M., (2011). Ecological Footprint as Indicator of Students Environmental Awareness Level at Faculties of

- Organizational Sciences, University of Belgrade and University of Maribor, Management, Faculty of Organizational Sciences – Belgrade, Belgrade, pp. 15-21.
- [16] Petrović, N., (2005). *Environmental Education: Case of Postgraduate Environmental Management Studies on Faculty of Organizational Sciences, Serbia and Montenegro*, Collection of Works, 8<sup>th</sup> "Toulon – Verona" Conference, Palermo, Italy.
- [17] Petrović, N., (2009). *Ekološki menadžment*, Fakultet organizacionih nauka, Beograd.
- [18] Petrović, N., (2010). *Development of higher environmental education program*, Management - časopis za teoriju i praksu menadžmenta, vol. 15, iss. 56, pp. 35-41
- [19] Petrović, N., Milićević, M., (2006). *Education For Sustainable Development*, Collection of Works, 9<sup>th</sup> "Toulon – Verona" Conference, Paisley, Scotland.
- [20] Petrović, N., Milićević, M., (2007). *Higher good Environmental Education*, Collection of Works, 10<sup>th</sup> "Toulon – Verona" Conference, Thessaloniki, Greece.
- [21] Ramsden, P., Dodds, A., (1989). *Improving teaching and courses: A guide to evaluation*. Australia: Centre for the Study of Higher Education, The University of Melbourne.
- [22] Randelović, D., (2006). *Reforma obrazovanja, ekološka edukacija i LEAP proces*, Nacionalni i lokalni ekološki planovi, EKOIST2006.
- [23] Roth, R. E., (1976). *A review of research related to environmental education, 1973-1976*. Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education, Ohio State University.
- [24] Taylor, P., Joughin, G., (1997). *What is flexible learning?* In: *Teaching through flexible learning resources*. Griffith Institute for Higher Education.
- [25] Toohey, S., (1999). *Designing courses for higher education*. Buckingham: Open University Press.
- [26] UNCED, (1992). *Agenda 21: Programme of Action for Sustainable Development*, Rio Declaration on Environment and Development. N.Y.: United Nations.
- [27] UNDP, UNESCO, UNICEF, World Bank, (1990). *Final Report of the World Conference on Education for All: Meeting Basic Learning Needs*, Jomtien, Thailand, 5-9 March 1990, New York, Inter-Agency Commission for the World Conference on Education for All.
- [28] UNESCO, (1978). *Final Report intergovernmental Conference on Environmental Education*, Organized by UNESCO in Cooperation with UNEP, Tbilisi, USSR, 14-26 October 1977, Paris: UNESCO ED/MD/49.
- [29] UNESCO, (1998). *Environment and Society: Education and Public Awareness for Sustainability*, Proceedings of the Thessaloniki International Conference. Paris: UNESCO.
- [30] UNESCO-UNEP, (1976). *The Belgrade Charter*, Connect: UNESCO/UNEP Environmental Newsletter, Vol. 1 (1) pp. 1-2.
- [31] UNESCO-UNEP, (1978). *Final Report Intergovernmental Conference on Environmental Education*, Organized by UNESCO in Cooperation with UNEP, Tbilisi, USSR, 14-26 October 1977, Paris: UNESCO.

- [32] United Nations, (1972). Action Plan For The Human Environment, United Nations Conference On The Human Environment, Stockholm
- [33] Voelker, A. M., (1973). Environmental education-Related research, 1969-72. An Annotated bibliography. Madison, WI: Wisconsin University Center for Environmental Communications and Education Studies.
- [34] World Commission on Environment and Development. (1987), Our Common Future. Oxford: Oxford University Press.

# HIGHER EDUCATION DROPOUT: EXPLORATORY STUDY IN THE POLYTECHNIC INSTITUTE OF SETÚBAL

**António Pires**

[antonio.pires@estsetubal.ips.pt](mailto:antonio.pires@estsetubal.ips.pt)

**Helena Gonçalves**

[helena.goncalves@spr.ips.pt](mailto:helena.goncalves@spr.ips.pt)

UNIQUA/IPS - Unit for Evaluation and Quality  
Polytechnic Institute of Setúbal  
IPS Campus, Estefanilha 2910 – 761 Setúbal - Portugal

## ***Abstract***

Issues related to success, failure and dropout in higher education have been the subject of empirical and theoretical studies which have focused on the multiple dimensions which characterise these phenomena. It is within this context, that UNIQUA/IPS (Unit for Evaluation and Quality of the Polytechnic Institute of Setúbal) has envisaged the establishment of procedures to identify and analyse causes of school dropout, particularly in the IPS schools where this issue has taken on serious dimensions (the Schools of Technology in Setúbal and Barreiro - and the School of Business Sciences). Aiming to analyse situations related to school dropout in 2008/2009 academic year, were identified students who had not renewed their enrolment in 2009/2010 except, of course, those who had graduated or situations, such as transfers or change of course. The data collection method used was an online survey questionnaire. Students were contacted via e-mail, or SMS, to answer the survey, which was made available on the IPS's information systems. In order to achieve representative dimension of sampling, the survey was also administered by telephone (with direct computer data entry). Causes, future prospects and reversing possibilities from dropout situation are identified. Main conclusions are presented and discussed.

**KEYWORDS** – higher education; school dropout; quality

## ***Introduction***

Issues related to success, failure and dropout in higher education have been, especially during the last years, the subject of growing interest and therefore the subject of studies, empirical and theoretical that, in many different ways, have discussed the multiple dimensions that constitute these phenomena. The quantity and diversity of research carried out not only demonstrates the social relevance that these phenomena assumes in contemporary societies, but also the importance of its study to a thorough understanding of the factors and processes involved in its configuration (Costa & Lopes, 2008).

For that reason, in terms of conceptualization of these phenomena, it is important to emphasize the recognition, particularly in Portugal, that school dropout and school failure are not synonymous, nor the second should be perceived as the sole cause of the first, although that may arise, in many cases associated (Costa & Lopes, 2008). Indeed, theory and research have revealed that the characteristics that students carry into higher

education (within the socio-demographic, academic or developmental scope), as well as the ones related to the quality of their own institutions (infrastructures, resources, services) and the interaction that is established between them, are key factors to consider in how students fit into this context of teaching (Anaya, 1996; Aspinwall & Taylor, 1992; Astin, 1993; Chickering & Reisser, 1993; Mathiasen, 1984; Mouw & Khanna, 1993; Pascarella & Terenzini, 2005; Ting, 2000; Tinto, 1993, cit. by Almeida et al, 2006).

For these reasons, and considering the transition and integration in that context as complex and multidimensional processes that involve multiple factors, both intrapersonal and contextual, (Almeida et al., 1999; Baker & Siryk, 1984; Brooks & Dubois, 1995; Diniz, 2001, 2005; Soares, 1998, 2003, cit. by Almeida et al, 2006), we considered important to conduct a study about school dropout in IPS, seeking to contribute to the understanding of the phenomenon in our own context.

### ***Study***

As part of its activity and with the central objective of strengthening actions for continuous improvement of the teaching/learning conditions offered to IPS students, UNIQUA/IPS (Unit for Evaluation and Quality of Polytechnic Institute of Setúbal) sets up identification and analysis procedures of dropout situations, particularly in schools where this problem takes on greater dimensions.

In this sense, and conscious and concerned about the growing number of school dropout situations which have occurred during the last academic year in some IPS schools - with emphasis on Technology Schools (of Setúbal and Barreiro) and on Business School – we carried out an exploratory study, which aimed to identify the factors that could be the causes of dropout situations of the courses attended or even of the higher education. Aiming to contribute to a global view on the dropout problem in IPS schools, the study aimed to identify and analyze dropout situations, identifying the factors that were in its origin, with the preventive objective of attempting to avoid or to reduce the number of future situations.

A pilot study<sup>1</sup> conducted in the Setúbal School of Technology also helped to highlight the critical need to conduct a study on this issue, at IPS level, seeking to know the institutional reality about the dropout problem and trying to know and understand the reasons which are in the origin of this type of situation.

Accordingly, and in order to examine dropout situations in 2008/2009, we have identified (through schools' informatics services) students who had not renewed their registration, except, of course, the graduates and the situations previously identified as course transfer or change. Still, considering that could eventually exist situations that have not been detected by schools, we have considered important to include, in the instrument of data collection, all the possibilities related to the current situation of students, considering that this would be a form of detecting unusual situations that, at first glance, might be improperly identified as dropout situations.

---

<sup>1</sup> Gonçalves, H. (Coord.) (2011). *Abandono Escolar no Ensino Superior: Estudo Exploratório no Instituto Politécnico de Setúbal*. Setúbal: Instituto Politécnico de Setúbal (Unidade para a Avaliação e a Qualidade).

Indeed, the fact mentioned came to be confirmed, and there was a few situations in which the contacted students had not abandoned their courses and they were in transitional situations (late payment of fees, waiting for a response to requests, in some 2nd cycle courses, and other situations) and, for some reason, they had not their current situation, identified in schools' informatics systems. Even so, because detected situations have been insignificant, we decided to keep the initials lists by school (identified as school dropout situations) considering, however, that some of the people contained in those lists were not actually in dropout situation, evaluating precisely by the situations encountered during the study and already mentioned.

Although we were aware of the limitations of the analysis we would do, we still wanted to develop a preventive study, to know a little more about the dropout problem in the IPS context. Accordingly, and despite all the existing limitations and constraints, we still wanted to proceed with its implementation, in order to not omit, a situation that, during the last academic years, has become increasingly evident.

The defined objectives were to identify and analyze the factors which gave rise to dropout situations in IPS Schools, as well as to contribute to the development of prevention and intervention strategies, to try to avoid these situations occur in the future. Considering these objectives, we hoped to get answers to some of the questions related to the dropout problem, particularly with the aim of trying to contribute to a decrease in its occurrence in IPS Schools and, crucially, to get relevant information for decision-making and implementation of preventive measures at that level.

### ***Method***

As data collection method, the exploratory study had a questionnaire (by on-line survey), using the informatics resources available for that purpose in each of the schools. Students were contacted by UNIQUA/IPS, via e-mail, to respond to the survey and, in the cases where this was not possible, they were contacted by SMS, for the same purpose of responding to the survey. Even so, because there has been a low rate response by students in all schools, the survey was applied, this time by telephone, considering that this option would be more effective in obtaining a greater number of responses.

Statistical treatment of data was made using *PASW Statistics* (version 18).

### ***Participants***

The study analyzed the IPS students of 1st and 2nd cycles of the five schools that did not renew the registration between the academic years 2008/2009 and 2009/2010, with the exception of the graduates and the situations, previously identified, as course transfer or change. In conjunction with the IPS information system/schools informatics services, we had access to a comprehensive list of IPS students that revealed this indicator (non-renewal of enrollment in 2009/2010) in a total of 1068 students. However, considering that not all students identified, responded to the survey (some of them did not get to be contacted), we had a sample (producer of data) of 136 students, that although it is not representative of the population under study, has allowed access to relevant information, which can be analyzed and suggests some questions that, for sure, deserve some reflection.

Table 1. Distribution of situations identified as dropout, by school and predictors of response to the survey

School	Students in December 2008	Situations identified as dropout	Situations identified as dropout rate	Number of responses to the survey	Responses to the survey rate
ESTS	2039	545	27%	64	12%
ESE	891	94	11%	12	13%
ESCE	1944	294	15%	34	12%
ESTB	638	89	14%	16	18%
ESS	558	46	8%	10	22%
<b>IPS total</b>	<b>6070</b>	<b>1068</b>	(Mean) <b>15%</b>	<b>136</b>	(Mean) <b>15%</b>

ESTS (Setúbal School of Technology); ESE (School of Education); ESCE (School of Business Sciences); ESTB (Barreiro School of Technology); ESS (School of Health).

### *Instrument*

The questionnaire, about school dropout in higher education, had as its starting point another questionnaire that had been built and applied in a pilot study<sup>2</sup> in ESTS and that was based on a literature search about the problem of school dropout and related areas, including academic adjustment of students to this level of education. The instrument sought to include the following areas: personal, interpersonal, vocational, of study and institutional (Almeida, Ferreira, & Soares, 1999, 2002), as representative of some of the areas that, certainly, best describe the academic adaptation and by the fact that we consider these same areas, as far enough about the issue of integration and adaptation to higher education, which largely relates to the phenomenon of school dropout in that context.

Accordingly, and based on the questionnaire used in the pilot study mentioned, we made some minor changes to it, with the aim of this to be applied in all schools. We tried to maintain a set of questions that could meet the areas mentioned above (although some of them, including the vocational area, has been slightly sidelined) and we also tried to include other issues, whose importance we felt could be relevant, precisely because one of the objectives of the study relates to the possibility of institutional prevention and intervention.

Examples of this, are the questions that allow us to verify whether there is or not, a difference between the moment the student considers the possibility of abandon the course and the moment he does it, actually. Other information that we thought could be important to obtain, was to see if the students felt that IPS could have contributed to the change of the current situation (of dropout) and, if so, how this could have been done. Considering the objectives of the study, we chose to adapt some of the questions of the mentioned instrument, introducing a set of more specific issues related to the purpose of the study and that were related with the identification of factors which had led to the dropout situation.

In this context, and specifically with regard to dropout factors (and respective issues), it seems important to highlight the fact that we have included another set of factors related to the "professional factors" (not included in the initial version of the questionnaire), because this was a factor mentioned by most respondents, during the pilot study. Considering that this factor has a peculiarity, we have incorporated it as one of the

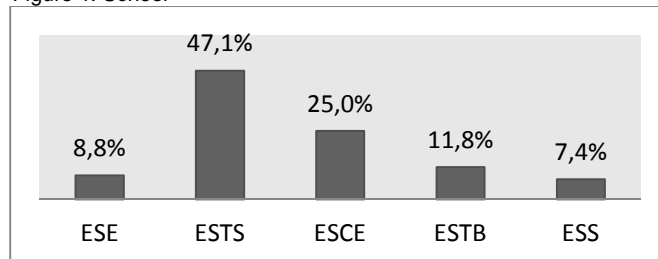
<sup>2</sup> Gonçalves, H. (Coord.) (2011). *Abandono Escolar no Ensino Superior: Estudo Exploratório no Instituto Politécnico de Setúbal*. Setúbal: Instituto Politécnico de Setúbal (Unidade para a Avaliação e a Qualidade).

possible response options, thus differentiating it from personal and economic factors. Accordingly, and after we carried out some adjustments, we have tried to assemble a set of precise and concrete questions, in order to reduce the difficulties of interpretation, trying to these questions cover some aspects of the dimensions we wanted to analyze.

### **Data presentation and analysis**

Concerning to the cycle, 82.4% of the sample belongs to 1st cycle and 17.6% belongs to the 2nd cycle. In terms of the school of origin, the majority comes from ESTS (47.1%), followed by ESCE (25%) and ESTB (11.8%). With a lower representativeness in the sample it is ESE (8.8%) and ESS (7.4%).

Figure 1. School



ESTS (Setúbal School of Technology); ESE (School of Education); ESCE (School of Business Sciences); ESTB (Barreiro School of Technology); ESS (School of Health).

The indicators related to participants per course are practically residual. However, there is a good diversity at this level, with a good representativeness of all courses in all schools. Concerning to gender, 62.3% of the sample is male and only 37.7% is female, which allows us to see a certain "masculinization" of the sample.

The age group most represented (39.2%) is located in the 30/39 years, followed by the age group of 23/29 years, with 26.9% of the indicators provided. In parallel, and with similar values, is located the 18/22 year age group (17.7%) and "40 years or more" with 16.2%. In terms of marital status, 45.7% of the sample is single, 41.1% is married or living in union, 11.6% is divorced and 1.6% is widowed.

As regards to 1st cycle students, and in terms of mode of access to higher education, 58.6% of the sample are students who accessed through CNA (National Access Procedure), followed by 29.3% who accessed through the Special Access Procedure for over 23 years old. With lower values, there are other special procedures (9.5%) and course transfers, reported by 2.6% of the sample.

About the fact of the course have, or not, been the first choice of the students, most of the sample (72.6%) answered affirmatively, compared with 27.4% who stated that the course was not the first choice. Regarding to the students' "statute", most of the sample (74.6%) is student-worker, compared with 25.4% who identified themselves as being "just" students.

Concerning to the current situation (Figure 2), the majority of the sample (57.6%) reported that abandoned the course on a temporary basis, while 11.4% reported that did that, on a permanent way. 18.9% reported that have changed course, 4.5% reported that have requested transfer to another school/HEI and 7.6% have referred other situations not specified.



Figure 2. Current situation

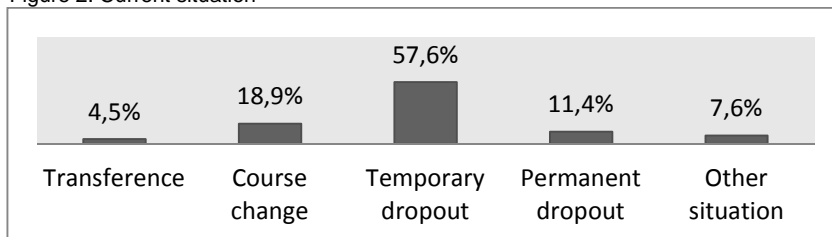
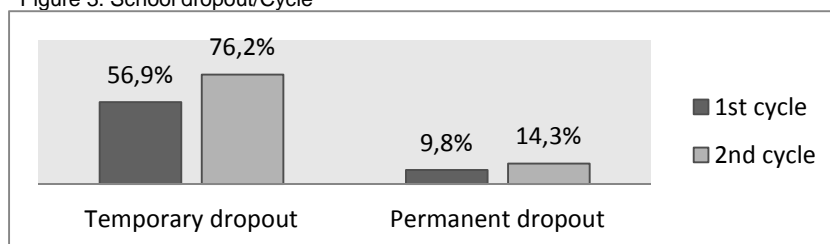


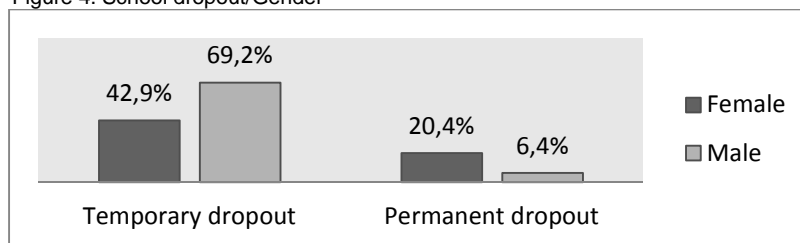
Figure 3, comparing the distribution of data regarding the present situation, considering the students of 1<sup>st</sup> and 2<sup>nd</sup> cycles, shows that 56.9% of students of 1st cycle, reported having dropped out temporarily and 9.8% reported having it done permanently, while the students of 2nd cycle, 76.2% reported having abandoned in a temporary form and 14.3% report having done so permanently. It is therefore in both cases, a majority of students of 2nd cycle.

Figure 3. School dropout/Cycle



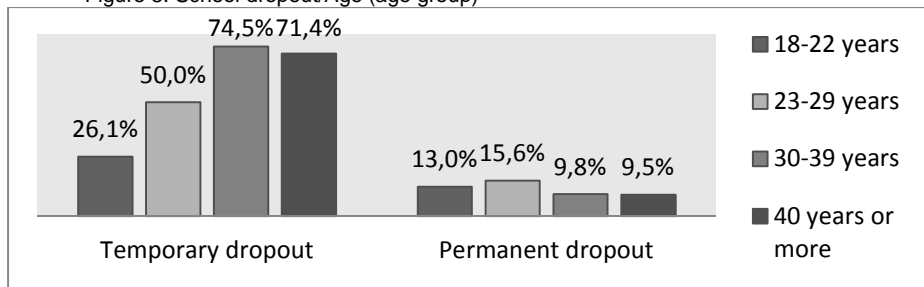
69.2% of male students reported having dropped out temporarily and 6.4% of them, reported having done so permanently, while the female students, 42.9% reported having dropped out in a temporary form and 20.4% reported having done so permanently.

Figure 4. School dropout/Gender

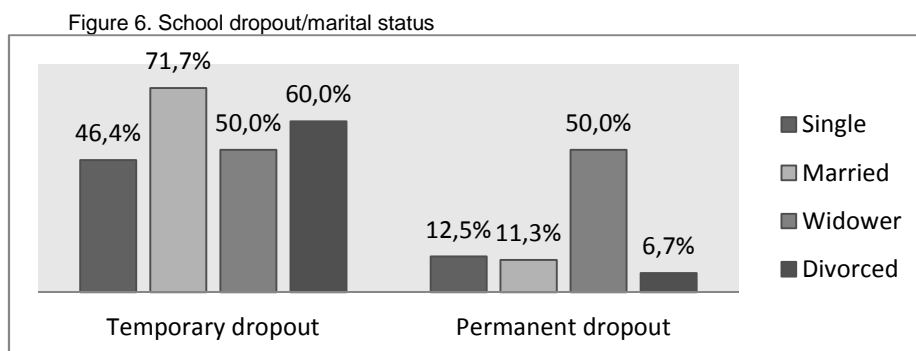


In terms of age, students of higher age group have identified dropout situations (permanent and temporary), with emphasis on the temporary dropout, which seems to indicate a bigger tendency to school dropout in older students.

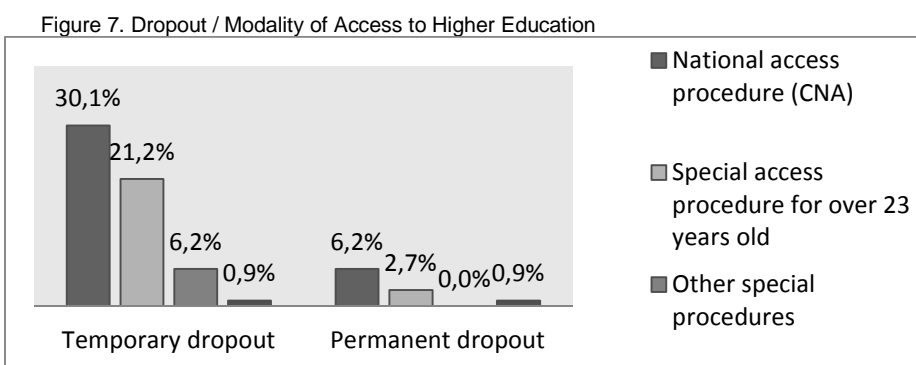
Figure 5. School dropout/Age (age group)



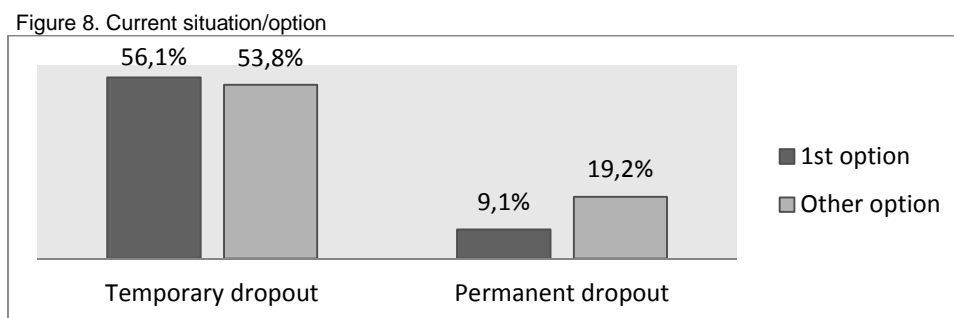
Regarding to marital status, there is a certain heterogeneity in the situations identified in the whole sample and there is also a certain heterogeneity in what refers to dropout situations, temporary and permanent.



There was, in all cases identified, a majority of participants enrolled in higher education through the National Access Procedure (CNA), followed by participants who accessed through the Special Access Procedure for over 23 years old, a trend also seen in dropout situations (temporary and permanent).

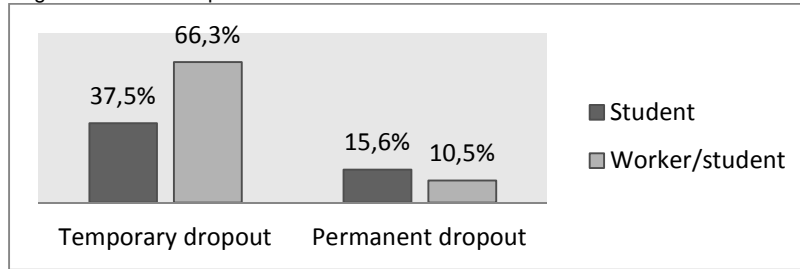


Concerning the choice of placement, there is a little significant difference in values, in situations of temporary dropout (56.1% as a first option and 53.8% as another option). In turn, and in what concerns to the situations of permanent dropout, in most cases (19.2%), the course was not student's first choice, compared with the minority (9.1%) that states that was the situation.



The status of the worker/student was found in 66.3% of situations of temporary dropout and in 10.5% of cases of permanent dropout.

Figure 9. School dropout/"statute"



Figures 10 and 11 allow us to affirm a certain parallelism between the moment the students consider to leave the course and the moment they actually do it and there is a greater tendency for these two moments to happen during the first two academic years. Stand out the second semester of 1<sup>st</sup> year and 1<sup>st</sup> semester of 2<sup>nd</sup> year, however it seems there is little difference between the decision moment and the action moment, the first being slightly earlier than the second, and not always simultaneously. In some cases, it appears that the intention appeared in the 1<sup>st</sup> semester and took effectiveness in the 2<sup>nd</sup> one.

Figure 10. School dropout intention

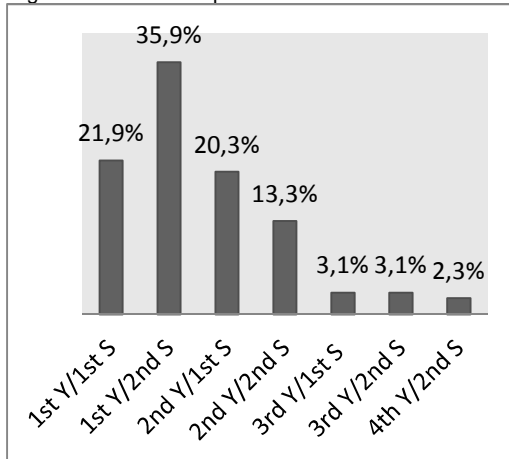
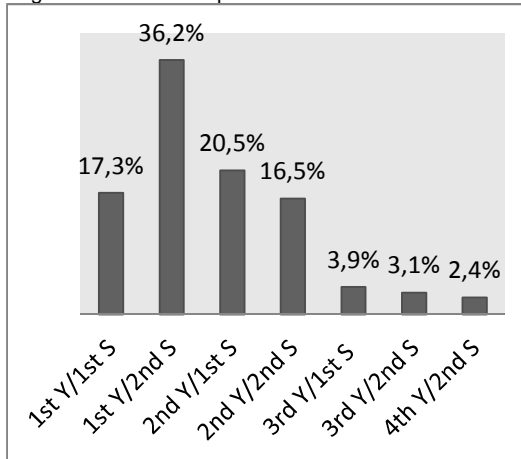


Figure 11. School dropout



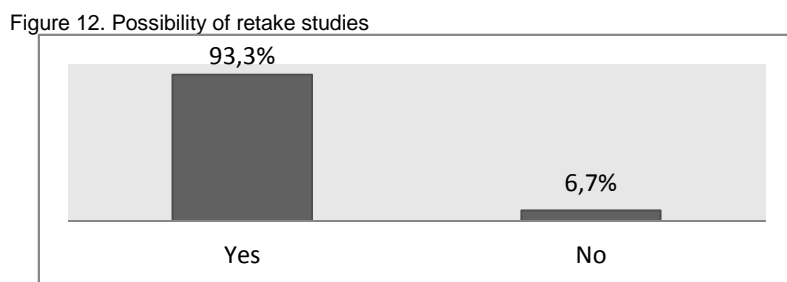
With regard to the causes, Table 2 shows that stand out the professional reasons (28.9%) and economic ones (21.8%) in situations of temporary dropout and professional reasons (32%) and lack of interest about the course (24%), when the dropout is identified as permanent.

As regards to course transfers, highlights the distance home/school as a key factor, which seems to infer that the transfer occurs, in fact, for a HEI closer to the student's residence. The lack of interest about the course is mostly referred in changing course situations, other situations and, as mentioned, in situations of permanent dropout.

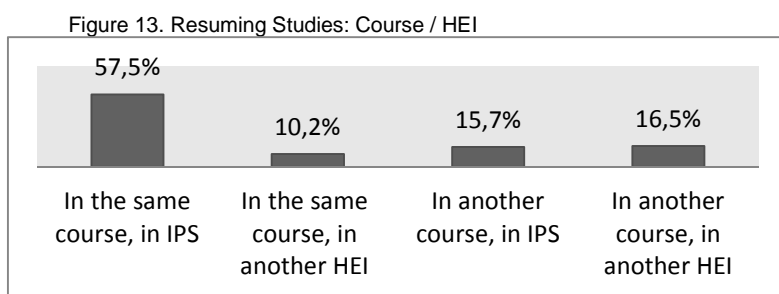
Table 2. Distribution of causes of dropout (temporary and permanent) identified by the participants

	Personal/Health	Economic	Professional	Family	Distance home/school	Academic difficulties	Lack of interest (course)	Other
Temporary dropout	7,7%	21,8%	28,9%	10,6%	12,7%	4,9%	4,9%	8,5%
Permanent dropout	0,0%	12,0%	32,0%	8,0%	8,0%	8,0%	24,0%	8,0%

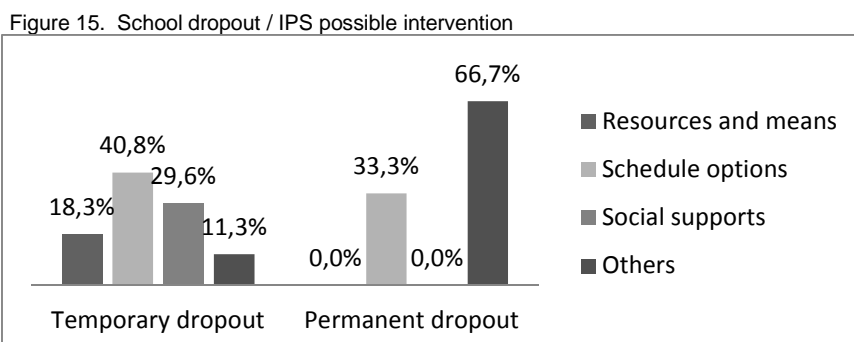
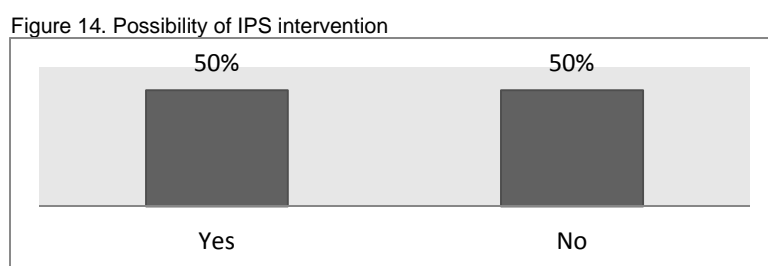
Figure 12, shows that, when asked about the possibility of retake studies, the majority of the sample (93.3%) shows that intention, compared with the minority (6.7%) that doesn't show it.



Considering the possibility of retake studies, that majority of the sample (57.5%) demonstrates the intention to do the same course and in the same IPS School, followed by the 16.5% that show the intention to do a different course in a different HEI. Considering the possibility of retake studies, and in terms of predicting the time of completion of the course, 54.8% of the sample expects to do it on time, 36.5% expects to complete it in more time than anticipated and a minority (7.9%) reported having doubts about its conclusion.

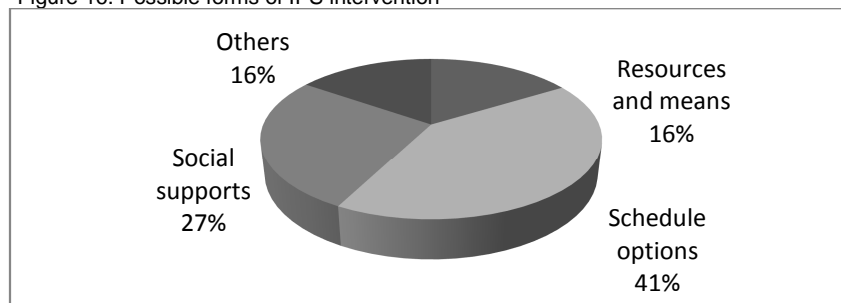


When asked about the possibility of IES, in this case the IPS, may have contributed to the reversibility of the dropout situation, the participants are divided, with 50% responding affirmatively and 50% to deny that possibility.



The way the participants suggest that such support could have been given, stresses above all the need to increase the schedule options (41%) and social support (27%) and the importance of providing more resources and means to students (16%), as can be seen in Figure 16.

Figure 16. Possible forms of IPS intervention



Upon the request to identify the resources and means that IPS could have provided to prevent the dropout situations, the participants' answers relate, mostly, with three possible answers present in the questionnaire. The participants have referred the importance of IPS try to meet, more effectively to the students' needs, having more and better resources (human and material) related not only to the very process of teaching and learning (teachers with better performance and better availability of equipment), but also related with procedural and bureaucratic issues related to some support services.

Also in this context, should also be subject of reflection, of the institution, the highlight of some issues related to the importance of existing more facilities for the payment of tuition and schedule options, particularly with regard to the after work and night schedules.

Regarding to the adaptation of students to the course, it was indicated in the survey, a set of indicators on which participants had to position themselves in terms of self-assessment. The first indicator was related to the degree of motivation about the course. Half of the sample (50%) showed a positive motivation over the course, followed by the 20.6% who showed a reasonable level of motivation and by the 19% that showed a very positive motivation. Negative levels (7.1%) and very negative (3.2%) of motivation about the courses, were evidenced by a minority of the sample.

In terms of attendance to lectures, 30.2% of the sample reported having had a reasonable attendance, 27% classified it as positive and 22.2% refers to it in a very positive way. A minority shows a negative self-evaluation (15.1%) and a very negative self-evaluation about their attendance (5.6%). Concerning the regularity of individual study, the majority of the sample (44.4%) perceives themselves in a reasonable manner, followed by the 28.6% who perceive themselves positively. 14.3% of the sample shows a negative perception.

About the level of preparation, particularly with regard to previous skills and knowledge, most of the sample makes a positive self-assessment (40.5%) and reasonable (39.7%). Still, it was found that 7.9% reported having a negative preparation, which may indicate some relationship with academic difficulties, identified by some participants as factor of the dropout situation.

With regard to the processes of teaching/learning and assessment, the majority of the sample shows a perception, generally, positive and reasonable, as can be seen in Figures 17 and 18.

Figure 17. Teaching/learning process

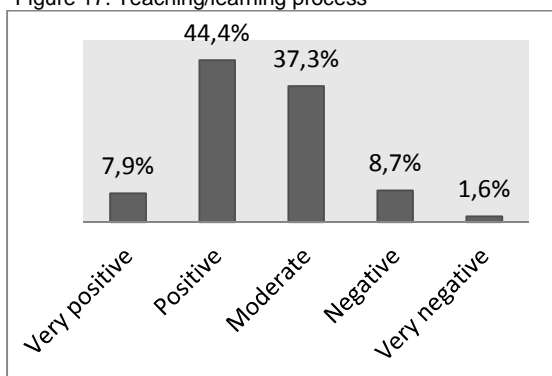
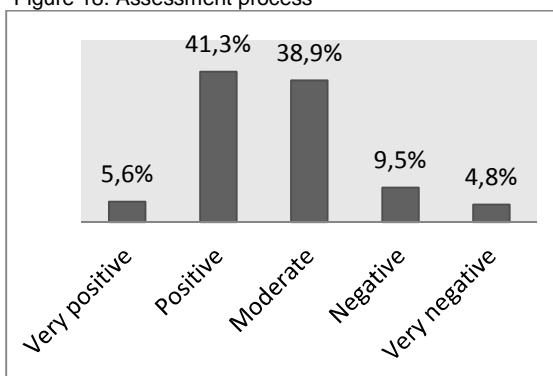


Figure 18. Assessment process



Regarding the level of students' satisfaction over the course/school, and before a set of indicators, in general, the sample shows a generally positive satisfaction. Examples of this are the generally positive view of the participants on the following items: content and programs, pedagogical performance of teachers, teachers/students relationship, general work environment, learning resources, support services.

### **Conclusions**

Summarizing the main points highlighted by the results obtained, in relation to cycle and to school, it turns out that the sample comes mostly from the 1st cycle (82.4%), and from Setúbal School of Technology (47, 1%) and Business Sciences School (25%). The indicators relating to participants per course, are practically residual checking, however, a "good" heterogeneity at this level, with a good representation of them on all schools.

This is a mostly male sample (62.3%), and the age most represented is 30/39 (39.2%), followed by the age of 23/29. In terms of marital status, it appears that most participants (45.7%) are single and 41.1% of them are married.

Access to higher education was mostly done by the National Access Procedure (58.6%), followed by the Special Access Procedure for over 23 years old. (29.3%) and this situation was observed in all the situations identified. Concerning to the choice of placement, the majority of the sample (72.6%) refers to the course in reference as its first choice.

The majority of the sample (74.6%) has identified themselves as working students, compared with the 25.4% who identified themselves "only" as students. Even so, in what refers specifically to the current situation, it appears that the only situation in which working students take on a bigger representativeness is the situation of temporary dropout (66.3%). In other situations, most participants identified themselves as "student".

Concerning the current situation, it appears that most of the sample is in a situation of temporary abandonment (57.6%), followed by 18.9% who report having changed their course and 11.4% who reported have abandoned the course permanently. Specifically

with regard to situations identified as dropouts (permanent and temporary), there is an evidence in both cases, that the majority of participants is of the 2nd cycle.

Concerning to the moment when it is considered the possibility of abandon the course and when it actually happens, it appears that there is a certain parallelism between these two moments and there is a slight difference between both of them. About the "timing" in which such situations seem to occur more frequently, the data obtained allow us to highlight the first two academic years.

Regarding the causes, the data highlight the professional and economic reasons, in situations of temporary dropout and professional reasons and lack of interest about the course, when the dropout is permanent. As regards to course transfers, the distance school/home seems to be a key factor. In turn, and with regard to future prospects, the highlighted given by the data obtained, shows that the majority of the participants (93.3%) expresses interest in resuming their studies, and the majority of them consider to do it in the same Course/IPS School (57, 5%).

Still, despite the intention evidenced by the majority of the participants, we consider unlikely, that intention will be realized in all cases, for reasons of different kinds and, according to the reasons identified, possibly related to professional and economic issues. In addition, we believe that the "susceptibility" of the subject may also have influenced the response of some participants. This brings us directly to the possibility of the IPS may have contributed to the reversibility of the dropout situation, fact that divided the opinions of the participants, with 50% responding affirmatively and 50% denying that possibility.

In this sense, the way the participants suggest that such support could have been given, particularly stresses the need to increase schedule options (41%) and social support (27%) and the importance of providing more resources to the students (16%).

Several issues that have been referred, should deserve some reflection, for instance, the importance of IPS try to meet, more effectively to the needs of students, having more and better resources (human and material) related not only to the very process of teaching and learning (teachers with better performance and better availability of equipment), but also related with procedural and bureaucratic issues related to some support services. Also in this context, should also be subject of reflection, of the institution, the highlight of some issues related to the importance of existing more facilities for the payment of tuition and more schedule options, particularly with regard to the after work and night schedules.

Finally, and in regard to issues related to the self assessment of the participants about their degree of adaptation to the course - in terms of general motivation, attendance to classes; regularity of their individual study; preparation (previous skills and knowledge); teaching/learning process; assessment process - it turns out they generally showed a positive self-perception.

Participants also highlighted, in terms of average, a positive degree of satisfaction about the course and the school - with regard to contents/ programs; pedagogical performance of teachers; teachers/students relationship; learning resources; support services.

### ***Limitations of the study / Guidelines for future works***

With this study, we have attempted to initiate a systematic process that has to do with the development, over the next few years, of a work of gathering and analyzing information related to the phenomena of school success, failure and dropout. In conjunction with the IPS information system, we will seek to have at the beginning of each academic year, a list of students who have not renewed the registration, according to the dropout rate, defined and used by all IPS schools, and that may be, in fact, considered dropout situations.

The aim is an availability of data in order to make an "historic" of the dropout situations in all schools and, at the same time, to promote preventive studies, contacting people directly, in order to obtain relevant information to decision-making and prevention measures at this level, especially in schools where this problem assumes a larger dimension. In this sense, it is desirable to use a sample with characteristics, as much as possible, of representation, as well as improving the instrument of data collection and conduct further analysis of the variables to consider.

In another level, we are also conceiving the implementation of a future project that aims to identify other potential relationships between variables that will be able to contribute to the explanation of the dropout phenomenon, in IPS context. We refer to the study of eventual influence of the socio-demographic characteristics of the IPS students and their families and other aspects like the students' academic path, before the access to higher education.

At the same time, and trying to contribute to the understanding of the dropout phenomenon, we are also considering the students' academic results, along their higher education path, to see, in a preventive way, if the institution can intervene in an effective and efficient way, in problematic situations at that level, but also at development, personal and interpersonal scopes. An idea, reinforced with the evidence, given by this exploratory study, that the dropout situations tend to occur in the two first academic years of the course. Indeed, and as we have stated before, theory and research have revealed that the characteristics that students carry into higher education, as well as the ones related to the quality of their own institutions (infrastructures, resources, services) and the interaction that is established between them, are key factors to consider in how students fit into this context of teaching.

According to the above, and considering the transition and integration in that context as complex and multidimensional processes that involve multiple factors, both intrapersonal and contextual, we think that consider, effectively and closely, the needs and expectations of our students, it may prove to be extremely important and decisive in preventing new cases of school dropout and to contribute, gradually, to that IPS students evince more stable and consolidated academic paths.

### ***Bibliography***

Almeida, L. S., Diniz, A., Guisande, A. & Soares, A. P. (2006), Modelo Multidimensional de Ajustamento de jovens ao contexto Universitário (MMAU): Estudo com estudantes de ciências e tecnologias versus ciências sociais e humanas. *Análise Psicológica*, 1 (XXIV): 15-27. Lisboa: Instituto Superior de Psicologia Aplicada.



Almeida, L. S. & Ferreira, J. A. (1997). *Questionário de Vivências Académicas*. Braga: Universidade do Minho.

Almeida, L. S., Ferreira, J. A. & Soares, A. P. (1999). Questionário de Vivências Académicas: Construção e validação de uma versão reduzida (QVA-r). *Revista Portuguesa de Pedagogia*, 3, 181-207.

Almeida, L. S., Ferreira, J. A. & Soares, A. P. (2002), Questionário de Vivências Académicas (QVA-r): Avaliação do ajustamento dos estudantes universitários. *Avaliação Psicológica*, 2: 81-93.

Almeida, L. S., Gonçalves, A., Salgueira, A. P., Soares, A. P., Machado, C., Fernandes, E., Machado, J. C. & Vasconcelos, R. (2003). Expectativas de envolvimento académico à entrada na Universidade: Estudo com alunos da Universidade do Minho. *Psicologia: Teoria, Investigação e Prática*, 8, 3-15.

Almeida, L. S. & Santos, L. (2001), Vivências académicas e rendimento escolar: Estudo com alunos universitários do 1.º ano. *Análise Psicológica*, 2 (XIX): 205-217. Lisboa: Instituto Superior de Psicologia Aplicada.

Bessa J. & Tavares J. (2004), (*ETApES*) *Experiências na Transição Académica para o Ensino Superior: construção e validação de inventário* (versão piloto). Aveiro: Universidade de Aveiro.

Costa, A.F., & Lopes, J.T. (Coords.) (2008), *Os Estudantes e os seus Trajectos no Ensino Superior: Sucesso e Insucesso, Factores e Processos, Promoção de Boas Práticas*. Lisboa e Porto (Consórcio de Investigação): CIES-ISCTE e ISFLUP.

Gonçalves, H. (Coord.) (2009). *Abandono Escolar no Ensino Superior: Estudo de Caso na Escola Superior de Tecnologia de Setúbal do Instituto Politécnico de Setúbal*. Setúbal: Instituto Politécnico de Setúbal (Unidade para a Avaliação e a Qualidade).

Gonçalves, H. (Coord.) (2011). *Abandono Escolar no Ensino Superior: Estudo Exploratório no Instituto Politécnico de Setúbal*. Setúbal: Instituto Politécnico de Setúbal (Unidade para a Avaliação e a Qualidade).

Ribeiro, J. (Coord.) (2011). *Caracterização do Insucesso Escolar no Instituto Politécnico de Setúbal – Cursos de 1º Ciclo (2007/2008 – 2009/2010)*. Setúbal: Instituto Politécnico de Setúbal (Unidade para a Avaliação e a Qualidade).

## Study of the Pressure on Faculty Members Regarding Passing the Students

### Autobiographical Note:

- **Author Name:** Ahmed Ali Qureshi  
**Academic Title:** MS/M.Phil Student

**University/Affiliations:**

1. Muhammad Ali Jinnah University (MAJU), Islamabad Pakistan

**Email:** [aaq44pk@yahoo.com](mailto:aaq44pk@yahoo.com)

**Postal Address:** H #6, Block C, Railway Housing Scheme No. 1, Chaklala, Rawalpindi, Pakistan.

- **Author Name:** Saima Afzal  
**Academic Title:** PhD Scholar

**University/Affiliations:**

1. Foundation University, College of Liberal Arts and Sciences, Rawalpindi Pakistan

**Email:** [afzalsaima@yahoo.com](mailto:afzalsaima@yahoo.com)

**Postal Address:** H #24, Lane #2, Chaklala Scheme #1, Rawalpindi, Pakistan

**Abstract**

**Purpose:**

Pressure being a key player in any organizations for burn outs and cause of over all low performance in the organizations. No organization, be it the educational institutes, is exception to it. There are multiple type of pressures that an employee may face in performing his/er duties. The faculty members of educational institutes sometimes may face somewhat different type of organizational pressures while discharging their duties.

The purpose of this research is to investigate if there are pressures from higher ups of respective institutes, on permanent faculty members of higher education institute of Pakistan for passing the students in exams. The purpose of the research also encapsulate the reason of the pressure (if any) on the faculty members.

**Method of Study/Approach:**

Descriptive Study

**Value of Paper:**

Since exclusive research on the topic has not taken place in Pakistan, the paper has a unique distinctive value. It may pave a way for researchers of Pakistan and the globe to look through into the types of pressure as well that employee of educational institutes face.

**Key words:**

Pressure, passing the students, higher education.

**Introduction:**

Education at all levels is becoming more of a business than working for cause. Entrance of businessmen in the field of education has given education working for money more than anything else. As a result all the employees of education sectors are in a continuous threat of various types of pressures inclusive of being fired, in case they are not up to the standards decided by the (whims of) businessmen or the higher authorities.

The performance of the faculty members is gauged with respect to three dimensions which are

- Teaching
- Research
- Administrative work

Thus Faculty members are under immense pressure from various sources for performance evaluation which in turn make them eligible or otherwise for promotion, retention and annual increments. Teaching part of the faculty member is very tricky and brings with itself various aspects. The sources of pressure include courses, annual minimum research production, thesis supervision, student evaluations, etc. Administrative work may include setting of Schedule/Time Table, responsibility of being Dean/manager student affairs, members of academic councils, member of disciplinary committee and others. Different research endeavors have already encompassed almost all of the pressure sources over faculty members.

While they are under immense pressure for meeting deadlines, making decisions, teaching and others, there is yet another facet of pressure, yet to be explored, under which the faculty member remains. For smooth running of the institute's operations and to avoid pressure from parents and for any other good reasons, it is yet to be explored if the faculty is pressurized for passing the students from administration side. It is this area where the authors have worked to highlight and yet another facet of pressure which faculty members may face.

In a country like Pakistan where there are only 128 universities accredited/recognized by Higher Education Commission (HEC), of Pakistan, existence of such pressures are highly likely, particularly in private sector. Such pressure must inflate the already dissatisfied faculty members due to lesser research facilities, no or less staff development programs, and system of evaluation as indicated by Ali in 2005.

For the matter to explore in Pakistan, descriptive study has been done to ascertain whether the pressure of not failing the students exists on the faculty members. For the matter following population and sample has been chosen.

**Population:**

The population of the study is all the universities of Pakistan.

**Sample:**

Public and private sector universities of Rawalpindi and Islamabad

**Objective of the Research:**

- To find out if there is any pressure on the university faculty members for passing a minimum number of students in their subject.

- To find out the cause of the pressure on faculty regarding the result of the students.

### **Significance of the Study:**

The main significance of the study is to fill the gap that is there in the literature to know if pressure exists from the administration side to fail minimum number of students.

The quality of education hurts extremely if pressure of not failing prevails over faculty members. More the enthusiastic faculty member is more he feels hurt and demotivated. Demotivated employee later becomes the source of dissatisfaction and frustration among the employees as well as the students. He misuses the resources and may not allow for smooth running of the operations under his direct or indirect control. He undergoes great regret while trying saving more and more number of students in grades. Faculty feels regretted because standards/difficulty level have been lowered in

- Quizzes, assignments & projects
- Class control & teaching
- Course content
- Strict minimum attendance policies

In short the faculty has lowered the standards of bread and butter that he has been enjoying throughout.

The study signifies the negative effect of such pressure and the urge the need to eliminate or reduce the pressure. The alarming situation in such centers of higher education calls for major changes and improvements.

### **Literature Review:**

Students and faculty members are the founders of university system. They are known as the founders of university systems as they laid the foundation stone of the medieval institutions of higher learning at Bologna and Paris that provided the base for the evolution of the today's university (King 2004 & Monroe, 2000).

Pressure being a key player in any organizations for burn outs and cause of over all low performance in the organizations. No organization, be it the educational institutes, is exception to it. There are multiple type of pressures that an employee may face in performing his/her duties. The faculty members of educational institutes sometimes may face somewhat different type of organizational pressures while discharging their duties.

There are multiple facets of pressure on employees. Lots of research has already taken place on those facets in the context of teaching. However, there is no exclusive research as yet encountered by the researchers on the pressure on faculty members of higher education of not failing the students. It seems to be gap in the research yet to be explored.

However, the research did take for pressures mostly from government and school administrators for increasing test scores through (Moore & Waltman, 2007). According to Moore & Waltman,

2007, this pressure has caused score inflation or test pollution. As per the definition of test pollution by Haladyna, Nolen and Hass, 1991, it is “factors affecting the truthfulness of a test score interpretation”. This also shows that the pressure exist. But since this pressure and evaluations or test checking is independent of the faculty members, they try to methodologies that increase test scores. In other words, it can also be deduced that the faculty members would have failed less number of students in case they were evaluating it by themselves.

Few authors, have also acknowledged the presence of such pressure. For instance, according to Trout, 2000, in order to get good scores in teacher evaluations, teacher tend to low their standards. In other words the faculty members are under pressure of not failing the students. He further goes on by saying that though few students want challenging instructors but more and more students do not want it. Again giving a clue that the teachers are not only under pressure for not failing and this pressure is getting increased. In short what Trout is saying is that pressure is there on the faculty members for giving good grades, that is to say of not failing, and its because of students’ evaluations and its link to teachers promotions, pay raises, etc.

Peter Sacks, in his famous book, *Generation X Goes to College* 1996, is also of the opinion that faculty evaluations make faculty members to lower standards and workloads of students. One can deduce from Sacks statements that faculty members lower their standards, so that maximum number of students do not fail or get good grades. It is indeed not the quality the faculty members can deliver and must make them guilt. At the same time, in the competitive environment to survive and to earn for the family, the faculty member declines the quality of the content to be delivered.

Edmundson (1997), is of the same opinion of lowering standards or to say giving high grades (and no or less Fs) for having good evaluations from students. Similar concerns are shown in studies by Toom, Ryan (1980) and Cernegie Foundation Study (1985).

Literature shows that its not only the evaluations that only plays the role of decreasing the standards or not failing the students, there are certain other factors that come into play such as demand of the administration. Linkage of grants for institute with NCLB, as Reeves noted, have made the faculty members lower their standards by giving more time on what is more likely to come in the exams than what should be taught alongside as well. The better the passing rate of the institute the better the grant.

Even if the grants are not associated with the failing / passing rate it is yet to be explored if the administration still wants no failures less than a certain percentage of the total. It may be because of less resources i.e faculty members, finances, lectures rooms, time constraints, etc. that the administration want more and more passing rate.

According to Ali, 2005 students and business organizations are now treated as the clients of the university and in most of the universities students’ opinion play a vital role in gauging the performance. Clients and customers are heard in the organization and literature is full of customer centric organizational focus, fulfilling the customers needs and desires.

No Child Left Behind (NCLB) has put pressure on teachers through administration, unsayingly, to have more and more students clear the minimum requirements of not failing. Research literature available for NCLB has highlighted the fact and that shows that faculty is now focusing on what needs to be taught to pass the exam. The NCLB related teachers have lowered their standards of what should be taught i.e. to make students conceptually clear. It is due to this that teachers are preparing the students to learn what is required to pass the exams and not what the students must learn.

Since it's a gap in the literature, there is no exclusive literature available on the topic. The literature which was reviewed and was directly or indirectly related to the topic has been discussed as above.

Pakistan being the member of developing countries has major issues in higher education specifically the faculty is dissatisfied as noted by Ali, 2005. In such a country where the producers of the nation are dissatisfied it is hard to believe that no pressure of passing the students exist. That is the major reason why Pakistan is chosen as the demographic place for the research.

**Hypothesis:**

The authors have formalized the following hypothesis

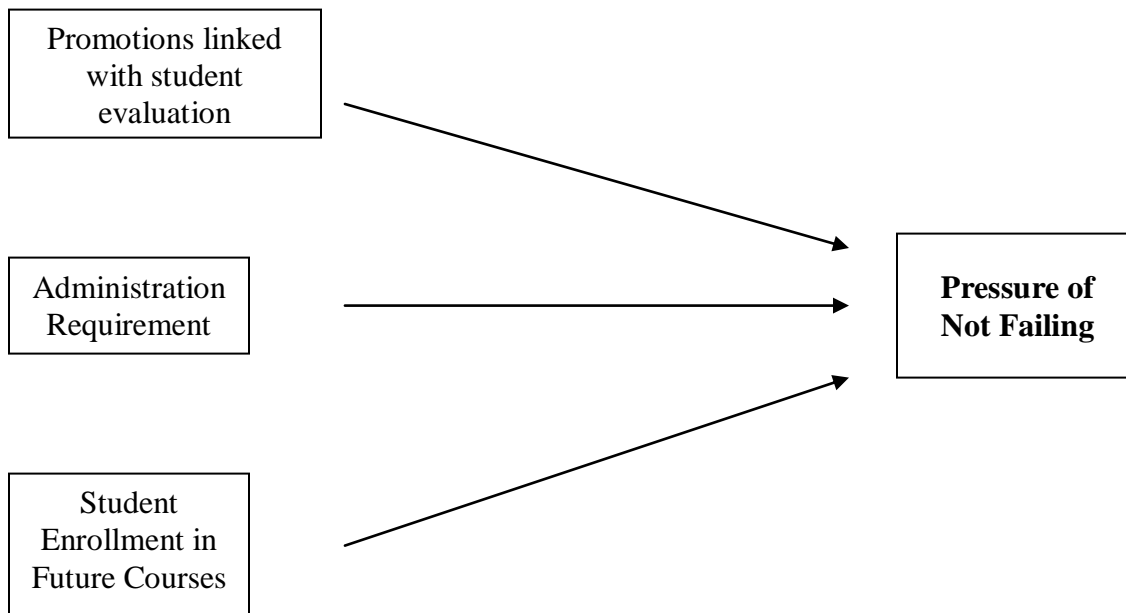
H1: The pressure exists on the faculty members of higher education institutes of Pakistan of not failing the students

H1o: There does not exist pressure on the faculty members of higher education institutes of Pakistan of not failing the students

H2: The pressure of not failing the students is high in private sector universities of Pakistan

H2o: The pressure of not failing the students is not high in private sector universities of Pakistan

### **Conceptual Framework:**



The authors chose the independent variable of “Administration Requirement”, as independent variable of current student as creating pressure of Not Failing the students.

### **Methodology:**

Following instruments were used for the study. No already developed questionnaire was available so the questionnaire was developed.

1. Questionnaire
2. Observation
3. Interviews

Since the authors are related to teaching as well, observation of the institutes and of the pressures by the administration was also done. Unstructured interviews with various faculty members were also done for data gathering and getting the notion of how the examinations take place in different higher educational institutes of Pakistan.

### **Results and Conclusion:**



The results along with the conclusion is given below. First the calculations are shown and then the conclusion of each result.

### Reliability of the Questionnaire and its Conclusion:

First the reliability of the questionnaire was taken into account. The results were as follows

#### Warnings

Each of the following component variables has zero variance and is removed from the scale: Job\_Type

#### Case Processing Summary

		N	%
Cases	Valid	14	100.0
	Excluded <sup>a</sup>	0	.0
	Total	14	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.839	.778	25

As per literature [3] the reliability test, for N=15 are enough for the reliability testing. The authors have taken the leverage to use N=14 for the reliability. N =14 is taken since, tools such as observation and interviews were also taken. The value of the Cronbach's Alpha turns out to be  $\alpha = 0.839$  and Standardized items = 0.778, which are very close to 01 and shows a high internal consistency and reliability of the questionnaire.

### Gender Ratio and its Conclusion:

The male to female ratio for the filling the questionnaire is shown below in the table. The male ratio 12% more than the female ratio, it may be because of the fact that in Higher Education Sector of Pakistan, there are more number of Male faculty members than the female.

#### Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	62	62.0	62.0	62.0
	Female	38	38.0	38.0	100.0
Total		100	100.0	100.0	

**Experience and its Conclusion:**

As can be seen from the table below, there 52% of the faculty members who filled the questionnaire were with the experience range of 6 to 10 years. It is also a good sign of the results reliability and adds in the significance of the study since 92% of the total sample had the experience greater than 5 years.

**Experience**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid (0-5)	8	8.0	8.0	8.0
(6-10)	52	52.0	52.0	60.0
(11-15)	27	27.0	27.0	87.0
(16-20)	7	7.0	7.0	94.0
(20+)	6	6.0	6.0	100.0
Total	100	100.0	100.0	

**Qualification and its Conclusion:**

It can be seen from the table given below, that maximum number of faculty members were with having 18 years of education i.e 45%. Since Higher Education Commission (HEC), of Pakistan has barred people with 16 years of education as faculty members, so there is none from that category neither the questionnaire had the choice of the same. Postdocs are the minimum in the number, it can be because either they are too less in number in Pakistan or are too busy to fill the questionnaire.

**Qualification**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18 Years	45	45.0	45.0	45.0
PhD	38	38.0	38.0	83.0
Post Doc	16	16.0	16.0	99.0
5	1	1.0	1.0	100.0
Total	100	100.0	100.0	

**Area of Teaching and its Conclusion:**

The table is quite self explanatory. There were only 4% of the people from arts side. It is mainly because of the reason that there are only few universities who offer programs such as these in region of our sample.

**Area of Teaching**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Arts	4	4.0	4.0	4.0
Engineering	51	51.0	51.0	55.0
Management Sciences	45	45.0	45.0	100.0
Total	100	100.0	100.0	



**Descriptive Statistics**

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance	Skewness	Kurtosis			
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic			
Tracking of Lowest Marks	100	4.00	1.00	5.00	311.00	3.1100	.09837	.98365	.968	-.225	.241	-.581	.478
Strictness of Attendance Policy	100	4.00	1.00	5.00	306.00	3.0600	.10232	1.02317	1.047	-.180	.241	-.525	.478
Intentionally Making of Quizzes Easy	100	3.00	2.00	5.00	338.00	3.3800	.08013	.80126	.642	-.440	.241	-.744	.478
Intentionally Making of Assignments Easy	100	4.00	1.00	5.00	294.00	2.9400	.11085	1.10846	1.229	-.107	.241	-1.160	.478
Intentionally Making of Mid Easy	100	4.00	1.00	5.00	280.00	2.8000	.08528	.85280	.727	.299	.241	.092	.478
Intentionally Making of Final Easy	100	4.00	1.00	5.00	287.00	2.8700	.09498	.94980	.902	.121	.241	-.678	.478
Giving Grace Marks to Students	100	4.00	1.00	5.00	407.00	4.0700	.08675	.86754	.753	-1.274	.241	2.352	.478
Not Failing an Implicit Desire of Admin	100	4.00	1.00	5.00	332.00	3.3200	.08150	.81501	.664	-.198	.241	-.177	.478
Result Amendment	100	4.00	1.00	5.00	331.00	3.3100	.11951	1.19507	1.428	-.480	.241	-.572	.478
Justify Failing Rate	100	4.00	1.00	5.00	330.00	3.3000	.08704	.87039	.758	-.066	.241	-.405	.478
Clearly Informed About Failing Rate	100	4.00	1.00	5.00	339.00	3.3900	.08516	.85156	.725	-.149	.241	-.213	.478
Valid N (listwise)	100												

**Conclusion and Further Area of Research:**

From the tables given above it can easily be seen the teachers are under pressure of not failing the students. This is true majorly in private sector and partly in public sector universities of Pakistan. In few case the the value of kurosis is negative which show that the data is positively skewed which shows that in that case the mean is greater than than the median, which shows that there were more number of agreeable respondents than the disagreeable respondents. Similarly in case the value of skewness is negative it shows, with respect to question that mean is lesser than the median and thus there were more number of disagreeable respondents than the agreeable ones. In short the table above shows that the hypothesis are accepted and yes there is pressure on faculty members of higher education of pakistan to fail minumum number of students and that the pressure is higher in private sector univrsites than in public sector universities.

**Further Areas:**

The paper also calls for further area of research. it can researched if the turnovers are high in such institutes where demand for passing more and more number of students are higher. It can also be researched what reasons calls for such an increase in the demand of not failing more than a certain percentage of students that is to say what variables cause the administration for such a hurting requirement.

**Reference:**

1. Ali. A (2005), A Study of the Academic Functioning of the Universities in Pakistan, PhD Thesis, University of Sargodha, Sargodha, Pakistan

2. Cernegie Foundation Study (1985)
3. <http://www.cronbachs-alpha-using-spss-statistics.php.htm>
4. Edmondson, M., (1997), As Lite Entertainment for Bored College Students, Harpers' Magazine, <http://www.harpers.org/archive/1997/09/0074348>.
5. Halayna, T> M., Nolen, S. B., & Hass, N. (1991), Raising standardized achievement test score and the origins of test score pollution. Educational Researcher.
6. <http://www.hec.gov.pk/OurInstitutes/Pages/Default.aspx>
7. King, P., (2004), The University in the Global Age. Hamsphire, Palgrave Macmillan.
8. Monroe, P. (2000), Paul Monroe's Encyclopedia of History of Education Volume 4, New Delhi: Cosmo Publication.
9. Moore, J. L. & Waltman, K. (2007), Pressure to Increase Test Scores in Reaction to NCLB: An Investigation of Related Factors, Annual Meeiting for the American Educational Research and Evaluation Association.
10. Reeves, T. C., No College Student Left Behind, NAS Online Forum.
11. Ryan, J., (1985), Student evaluation: The Faculty responds," research in Higher Education.
12. Sacks, P. (1996), Generation X Goes to College, An eye-Opening Account of teaching in Postmodern America, Open Court Publishing Company, Illinois, USA
13. Trout, P. (2000), Teacher Evaluations, Some Number Don't Add Up, Commonweal, The Interchurch Center , New York City.

# **A NEW PARADIGM FOR HIGHER EDUCATION**

**Yossi Raanan**

College of Management-Academic Studies, Israel

[yraanan@colman.ac.il](mailto:yraanan@colman.ac.il)

There seems to be no question that higher education is undergoing a deep revolution. The winds of change are blowing from every direction: the regulators, the budgeting organizations, the public in general, industry. In addition, higher education has enjoyed, over the past decades, an unprecedented growth. And, on top of all this, the knowledge explosion is accelerating exponentially. Yet, for the most part, higher education continues to operate as if nothing has changed.

Can higher education continue in the current path? Is it sustainable in its current form, or course? If the answer is negative, we need to look for another sustainable model, even at the cost of breaking away from our current paradigm and adopting a new one. Historic developments of education systems may serve as guidelines, but the issues of social changes and systems' size will probably force a new approach.

In this paper these developments and trends will be described, the new forces will be presented and a new paradigm for higher education will be offered. It is hoped that this new paradigm will lead to a sustainable higher education system.

## **1. Introduction**

Higher education is going through a major revolution over the past few decades. The growth in attendance, coupled with financial woes for many institutions, served as catalysts for a changing higher education landscape. This has caused manageability issues, (see Raanan 1998, Raanan 1999) and some serious sustainability issues (Raanan 2000, Raanan 2003, Raanan 2004, Raanan 2005, Raanan 2007). In this paper, an attempt is made to find a new paradigm that will enable higher education to perform its two most important roles, out of the three major tasks it has had – educating society's elite, preparing the young generation for the job market, creating new knowledge. Today, it seems, these tasks are extremely hard to carry out within the boundaries of a single institution.

In addition to the current crisis, it will be shown that the demand for higher education services is growing even faster than enrollment numbers may indicate, for a variety of social, technological, economic and population-movement reasons. Therefore, the old paradigm, of erecting more buildings and hiring more faculty, cannot continue for long (that is true even without the rapid aging process that is affecting many higher education systems in the world). The time has come to adopt a new paradigm, such as the one proffered here.

In section two, the forces behind the explosive demand for higher education are presented. The need for more education is further detailed in section three, and in section three the implications for higher education are discussed. Section four presents the implications for higher education. The proposed new paradigm is discussed in section five, and section six consists of a brief summary and the additional work required in order to turn this paradigm into reality.

## **2. Higher education – a growth industry**

Higher education has been experiencing a rapid growth since the period that started after World War II. It has really been gaining in size since 1970, as is clearly evident from the table 2. Ignoring the missing data and the resulting inaccuracies, still the trend is undeniable: the number of students receiving tertiary education is rapidly increasing. Estimating some of the missing data in order to reach more accurate numbers, the compound annual growth rate is about 3.5%. This is a remarkable growth rate to sustain for almost 30 years. Comparing this number with the world's population growth rate, given in table 1, shows that indeed the growth in tertiary education enrollment far exceeds the growth in the population – even for the rapidly growing less developed regions. The growth in tertiary enrollment rate is more than twice the rate of the population growth. When considering this data, the fact that women, in many regions, do not have equal access to education in general and to higher education in particular, should be kept in mind. Allowing for equal access would certainly increase the demand for higher education even further.

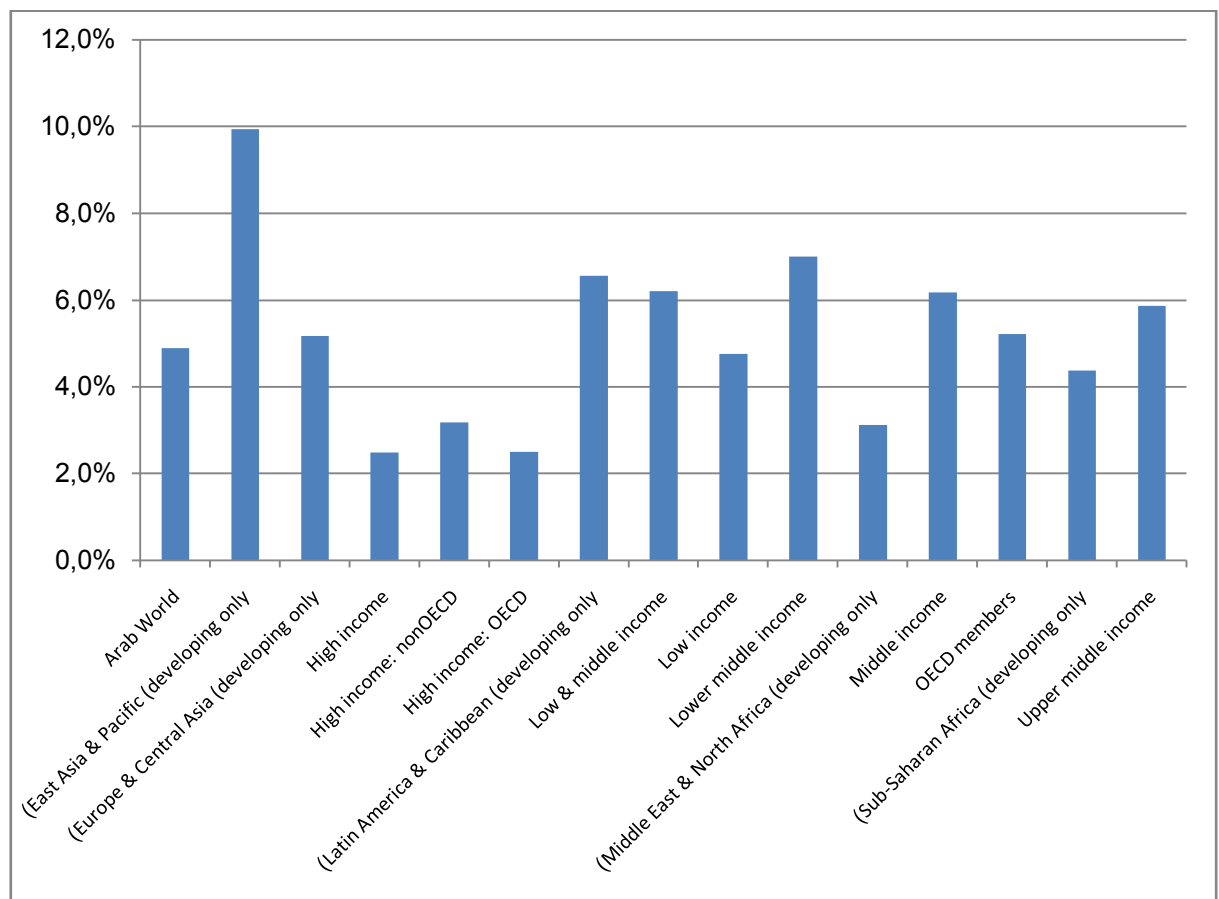
Another interesting statistic is that of the growth in the number of tertiary education teachers. These numbers are given in table 3. Again correcting for missing data, we reach a compound annual growth rate of 4.7%. This number means doubling the number of tertiary education teachers in 15 years.

So far, the statistics presented here are global averages. If we drill down into regions, we'll see quite a variance. This is made quite clear in the graph below. The annual compound growth rates vary from 2.5% in the OECD group to 10.0% in the East Asia and Pacific (developing countries only). Figure 2 shows the prospects from another angle: the percent of the population of the eligible cohort (those people in the relevant age group) that attends tertiary education. This number reaches almost 70% (69.2%) in the OECD countries, from a low of 5.3% in the low income countries or 5.6% in Sub-Saharan African countries. Clearly, there is a huge potential for growth in the less developed countries and while this growth will not completely realized overnight we can assume it will happen in the not so distant future,



concurrently with the world effort to increase equality and to improve the standard of living in the developing world.

The phenomenal growth in higher education can also be manifest in the subject areas that are now popular among the students. Business administration, computer science, communications, economics and management are now among the most sought departments, and these topics were not present in the academic world in any significant form (or even at all) before the last quarter of the 20<sup>th</sup> century. And there are many more. On the other hand, the classic curriculum, providing a broad knowledge of the humanities and of the ancient languages is fast becoming a relic of the past.



**Figure 1: Growth Rate 2001-7 Tertiary Enrollment as Percent of Population**

These changes all show the dynamic nature of higher education these days, with prospects of even higher growth rate to be expected.

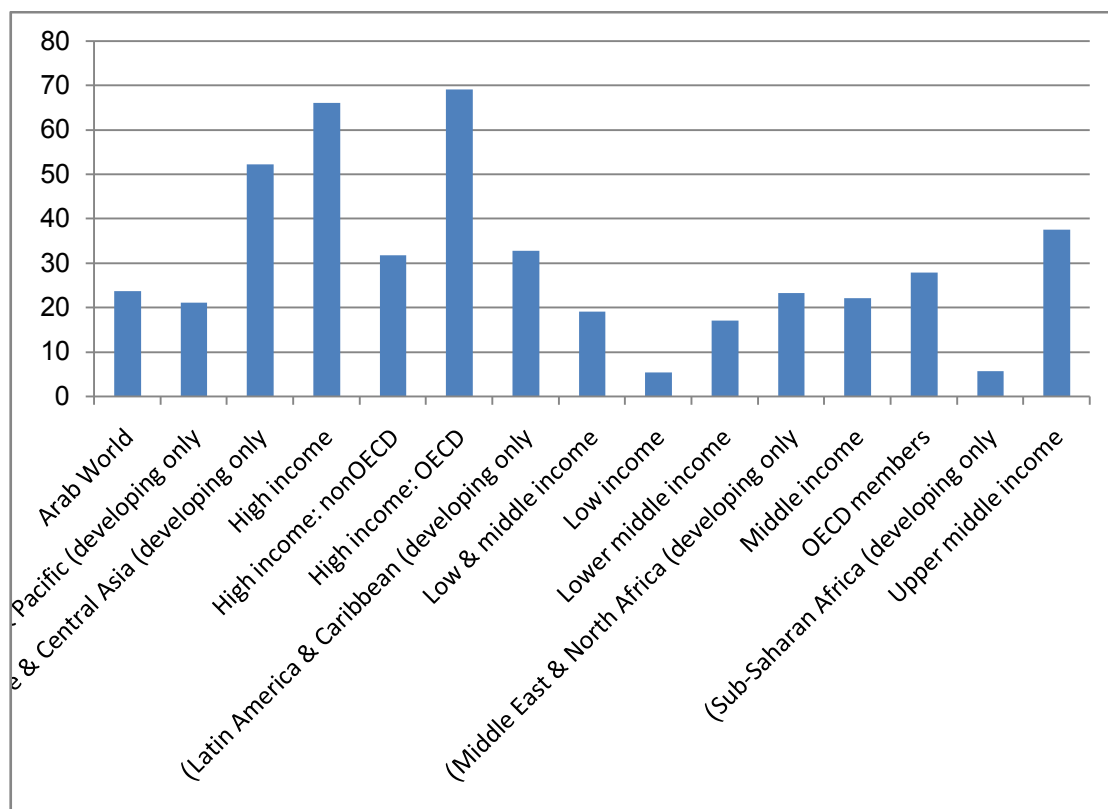


Figure 2: Percent of Population Attending Tertiary Education (% of eligible cohort)

Table 1: Average annual rate of change (percent) of the World's population

Year or period	World	More developed regions <sup>1</sup>	Less developed regions
1975-2000	1.60	0.52	1.92

Source: World Bank (2005)

<sup>1</sup>This terminology is used by the UN for statistical purposes only, and does not necessarily describe future trends.

**Table2: Students in tertiary Education, 1970-1998**

Grand Total	Sub-Saharan Africa	South and West Asia	North America and Western Europe	Latin America and the Caribbean	East Asia and the Pacific	Central Asia	Central and Eastern Europe	Arab States	Academic Year
									<b>1970-9</b>
7,051,549	101,964	137,660		1,097,682	481,944	19,699	5,212,600		1970
28,448,615	79,245	2,686,107	11,839,597	1,784,566	3,394,011	19,548	8,203,071	442,470	1971
25,520,268	81,091	347,720	12,525,439	2,071,141	3,650,319	19,649	6,321,989	502,920	1972
29,130,953	185,759	3,162,575	12,885,906	2,089,768	3,878,361	19,997	6,383,481	525,106	1973
28,041,206	103,479	466,057	13,428,807	2,743,734	4,163,680	21,373	6,511,239	602,837	1974
30,186,332	144,079	301,453	14,529,253	3,301,729	4,453,374	24,175	6,724,040	708,229	1975
38,326,260	168,291	3,516,002	16,882,945	3,209,156	4,827,935	27,108	8,864,697	830,126	1976
36,300,835	196,518	3,522,790	15,906,965	3,403,824	5,135,515	30,994	7,127,012	977,217	1977
37,505,711	228,423	3,673,051	16,392,091	3,369,905	5,506,386	33,589	7,230,131	1,072,135	1978
39,357,847	274,624	3,696,981	16,379,663	4,077,414	6,487,044	36,654	7,203,457	1,202,010	1979
									<b>1980-9</b>
40,351,018	285,058	3,675,854	16,846,120	4,417,814	6,333,859	39,090	7,457,257	1,295,966	1980
45,460,031	361,291	3,833,656	17,456,488	4,562,344	7,390,260	1,060,650	9,441,184	1,354,158	1981
43,360,708	409,682	3,786,039	16,808,689	4,938,198	6,805,434	43,854	9,102,234	1,466,578	1982
46,069,007	407,314	4,502,567	18,198,210	5,203,007	7,124,314	45,831	9,047,380	1,540,384	1983
47,327,819	459,594	4,864,920	17,211,713	3,960,240	10,149,600	47,369	9,028,654	1,605,729	1984
48,716,181	530,728	5,211,739	18,327,279	3,117,946	10,895,083	46,946	9,058,946	1,527,514	1985
55,376,088	531,521	5,571,062	20,260,915	5,864,628	10,710,240	1,401,167	9,249,513	1,787,042	1986
51,710,309	583,253	5,594,114	19,012,872	5,829,811	11,324,898	46,728	7,286,918	2,031,715	1987
55,529,053	924,539	5,102,836	19,370,838	5,417,771	12,464,645	1,378,739	9,000,320	1,869,365	1988
57,702,544	1,115,602	5,001,986	21,742,664	5,462,798	12,188,226	1,369,179	9,121,215	1,700,874	1989
									<b>1990-8</b>
60,765,555	770,715	5,669,265	22,896,744	5,387,004	13,420,629	1,393,418	9,336,568	1,891,212	1990
62,560,582	834,027	5,428,479	25,769,461	6,843,549	11,016,537	1,580,361	9,358,670	1,729,498	1991
56,859,583	713,902	103,840	26,817,299	4,266,223	13,088,683	1,341,598	9,162,932	1,365,106	1992
54,753,158	815,912	102,882	27,581,304	5,035,281	10,387,087	380,239	9,219,555	1,230,898	1993
61,051,228	908,068	179,435	27,937,480	6,197,240	14,225,901	851,175	9,522,124	1,229,805	1994
67,144,263	391,268	5,935,321	28,376,330	3,756,104	16,582,222	1,002,002	9,807,437	1,293,579	1995
67,604,083	255,478	6,849,567	28,531,450	5,923,431	14,988,800	864,848	9,067,921	1,122,588	1996
44,321,413	151,360	6,060,418	11,584,047	4,058,399	11,451,902	463,448	9,565,688	986,151	1997
64,711,447	183,261		24,949,319	8,203,261	18,832,592	277,351	11,485,108	780,555	1998

Source: UNESCO (2006)

### **3. Need for more education**

In addition to higher education as we know it today, the demand for various other education services is ever-growing. This is true both for formal education and for the post-formal education.

Life-long and workplace learning, which today are commonly accepted as a reality of modern life, usually refer to that education which is obtained after one has finished one's formal studies, regardless of the level which one completed last. Hence, we can talk about Post-Formal Education or PFE. (This term will be used throughout this paper.)

The demand for PFE is growing quite rapidly, for a number of reasons. Probably the leading force driving the increased demand for educational services is the realization that more education is very highly, positively, correlated with higher life earnings. While this may affect primarily the demand for formal education, it also has an effect on PFE, as more and more people who are past their formal education seek to be better educated, have more skills and improve their earning power.

The demand for PFE is being driven by many other forces. For the sake making sense of these varied forces, they will be divided into groups. The first group is the group of natural causes and processes. This group consists of forces like the growing world population, which creates a need for PFE; also in this group is the increase in longevity – the longer we live, the more PFE we demand. Another group is made up of technological forces. Among them we find the Internet, which greatly accelerates the dissemination of information worldwide and also makes it accessible to everyone everywhere a connection to the network is found, thus increasing competition. The rapid spread of cellular Internet, now at the focus of most cellular and contents service providers, accelerates this trend even faster.

Increased automation and computerization of many activities also creates stronger demand for PFE in two complementing ways: one is driven by the fact that more and newer tools are needed for running those systems, requiring constant learning; the other is its effect on labor hours in the developed world – it reduces the total hours

**Table3: Number of teachers in Tertiary education, 1971-1998**

Grand Total	Sub-Saharan Africa	South and West Asia	North America and Western Europe	Latin America and the Caribbean	East Asia and the Pacific	Central Asia	Central and Eastern Europe	Arab States	Academic Year
1,182,083	5,427	11,653	600,316	118,485	370,989	-	51,595	23,618	1971
1,295,729	5,406	9,738	651,631	157,085	390,574	-	54,434	26,861	1972
1,532,264	4,464	226,996	663,773	147,231	408,725	-	55,689	25,386	1973
1,446,357	6,128	15,117	676,912	216,557	442,731	-	57,721	31,191	1974
1,476,686	6,783	15,826	706,728	238,688	417,333	-	60,505	30,823	1975
1,817,106	7,529	256,408	768,777	213,397	492,223	-	64,451	14,321	1976
1,836,844	5,709	272,311	792,291	238,028	438,870	-	67,773	21,862	1977
1,045,967	8,417	278,022	103,044	275,687	260,134	-	71,292	49,371	1978
1,308,483	9,243	249,661	67,810	294,603	560,031	-	74,687	52,448	1979
1,440,368	6,221	289,933	88,910	335,324	588,552	-	74,979	56,449	1980
1,295,425	20,539	17,427	87,872	365,991	625,525	25,745	126,970	25,356	1981
1,120,055	24,506	20,867	97,776	374,897	430,711	-	109,998	61,300	1982
1,271,511	11,655	29,598	228,951	413,705	405,310	-	110,103	72,189	1983
2,215,064	12,082	314,182	934,515	315,113	456,968	-	108,768	73,436	1984
2,531,170	14,246	342,126	930,706	212,890	845,123	-	112,708	73,371	1985
2,820,478	34,044	346,662	928,631	442,704	843,577	13,136	130,424	81,300	1986
2,906,125	17,548	346,961	943,191	452,561	953,912	-	90,402	101,550	1987
2,130,026	27,552	22,762	1,016,348	407,339	516,214	-	93,120	46,691	1988
1,498,143	54,247	4,694	251,500	414,022	575,189	18,194	139,327	40,970	1989
2,461,291	28,734	23,789	1,092,451	448,655	640,143	17,846	158,194	51,479	1990
2,286,810	33,426	4,925	1,115,787	454,944	403,037	29,370	170,587	74,734	1991
2,862,388	30,059	-	1,137,545	308,527	585,708	14,190	714,648	71,711	1992
2,699,457	31,392	-	1,770,667	268,871	325,226	23,296	212,840	67,165	1993
4,428,124	38,077	3,511	1,944,635	435,216	1,220,825	22,896	723,490	39,474	1994
3,592,983	12,796	-	1,847,997	256,088	746,796	47,798	638,694	42,814	1995
2,859,814	11,474	52,812	1,620,582	510,593	340,924	40,600	217,261	65,568	1996
1,983,547	4,831	-	606,565	345,752	667,991	41,058	283,613	33,737	1997
1,968,088	5,001	-	167,743	400,570	1,220,772	8,485	153,669	11,848	1998

Source: UNESCO (2005)

needed, increases unemployment and intensifies the competition for jobs. And, as in any competition, the race is to the swiftest – in our case, to those who manage to stay up-to-date technologically, in turn forcing those who wish to stay in the race to consume more PFE. The third group consists of factors derived from Globalization. It has a strong effect on the demand for PFE since the increased competition from hitherto irrelevant places forces everyone to produce better products and services just in order to survive commercially and economically, let alone make progress – and to do it faster than ever before. This was clearly and very convincingly demonstrated by Friedman (2005). This phenomenon has resulted in what is known as "Innovate or Die" approach (Peters, 1977). It requires better knowledge, improved methods and faster development. All these require, in turn, more PFE in one form or another. These new products and services create a compounding effect as very frequently new skills and training are needed for their production and, sometimes, even for their use. The effects of globalization on the gaps among various countries and areas in the world, made much more noticeable with the expansion of TV coverage worldwide, also require heavy investments in PFE. The information explosion we are witnessing is in another honorable group all on its own. First, with the amount of information doubling every 2-3 years, some even say every 18 months (Fisch et al, 2009), also contributes heavily towards increased needs for PFE. Second, with the resulting increase in the number of new professions, and with the tightening regulation of many of the existing professions, there is an ever-increasing need to reevaluate the skills and knowledge of those professionals and their familiarity with the new information relevant to the practice of those professions. Thus, more PFE is needed here, too.

Another, perhaps most crucial group is the social group. Here we list social forces which shape our society. One of the most vigorous forces in our society, world-wide, regardless of color, creed, geography or initial income is that of urbanization. The incessant movement from villages to cities, from agriculture to industry and services, has been a strong one for a long time now, and is expected only to continue growing in the foreseeable future. If we look at the data supplied by the World Bank, basing them on reports by the International Labor Organization (World Bank, 2005), we see the following shifts in the decade which passed between 1990-1992 and 2000-2002.

**Table 4: Changes in % of Labor force employed between 1990-92 and 2000-02 in agriculture**

	Male		Female	
	% of male employment		% of Female employment	
	1990-92	2000-02	1990-92	2000-02
High income	6	4	4	3
Average, all reporting	35	18	40	15

**Table 5: Changes in % of Labor force employed between 1990-92 and 2000-02 in industry**

	Male		Female	
	% of male employment		% of Female employment	
	1990-92	2000-02	1990-92	2000-02
High income	38	35	19	15
Average, all reporting	26	31	14	15

**Table 6 Changes in % of Labor force employed between 1990-92 and 2000-02 in services**

	Male		Female	
	% of male employment		% of Female employment	
	1990-92	2000-02	1990-92	2000-02
High income	55	60	76	82
Average, all reporting	40	51	48	71

We can clearly see that the numbers are pointing in one direction: away from agrarian or even industrial economies towards the service economy. The percent of the men employed in agriculture has dropped from 35 to 18 in that decade. In industry, that percentage increased from 26 to 31 and in services there were 40% of the male labor force in 1990-92 which soared to 51% in 2000-02. For the women it is a similar story: agriculture from 40 to 15, industry from 14 to 15, and services from 48 to 71. A look at the rows labeled high income (countries) clearly shows us the way of things to come: 60% - 82% in services (respectively male - female), 35% - 15% in industry and 4% - 3% in agriculture. While of course agriculture is as rapidly developing in the high income countries as is any other sector, in the rest of the world it is, frequently, synonymous with low or no education and very little PFE. Thus, this shift will put

pressure not only on the formal education systems to cope with the increasing demand, but also on PFE.

PFE also has strong effects on higher education. One effect is the "overflow" of subject matter from PFE to higher education. As a collection of notions, ideas, concepts and tools that are taught as PFE becomes a respectable body of knowledge, it gains academic recognition and becomes a topic taught in higher education for various degrees. Recent examples include computer science, business administration, communication, design and more. They all started as a collection of PFE eclectic courses and turned into respectable academic disciplines. Another effect is created by the desire for legitimacy of various professional activities, seeking an academic recognition and turning previously non-academic areas into academic disciplines. Examples are nursing, alternative medicine, design and more.

#### **4. Implications for Higher Education**

There are many implications for higher education. The most alarming one, at least for people involved in higher education, is that it is fast becoming – so far at the Bachelor's level is discussed – a commodity service. While exceptions still exist, the fact that in the OECD countries close to 70% of the relevant population turns to higher education makes a much demanded service. Services in such high demand are normally widely available and they tend to generate many suppliers, in many locations – when the service requires physical facilities for its delivery – and many forms of delivery (or supply). It becomes a ubiquitous service, available almost anywhere, anytime at a variety of access methods, durations, prices and times. The Bachelor's degree, in the developed world – as represented by the OECD countries – is rapidly becoming a minimum standard educational level that one must have in order to be considered educated or, in many cases, employable. This means that while the Bachelor's degree was not so long ago a clear advantage in the job market, it is now becoming a minimum entry level requirement. The immediate implications of this development are classical: a push towards higher degrees, namely Master's and Ph. D. These two degrees require different treatment (see section 5 for details).



Another implication for higher education, a potentially positive one, is that there are new opportunities for delivering higher education, or higher-education-like teaching to a growing audience, one with an ever increasing appetite for knowledge and skills. This opportunity will be exploited by non-academic organizations as well, mostly for-profit organizations, and the competition will be quite fierce. Those universities that will seize this opportunity and rise to the challenge may find it a ready source of income that may support their other, non-profitable operations.

A very serious implication is that of the entry level standards. By definition, the top echelons of the potential students possess higher academic skills and are better prepared for academic studies. Once the bar is set so that 70% of the population may pass it the ramifications, as far as academic preparations, learning skills and discipline are obvious. This by no means implies that we should keep an arbitrarily high barrier in front of the universities' entrance, only that we should be aware of the changing classrooms and their implications. This result of the increase demand has some further ramifications of its own: teaching methods will have to be adapted to the abilities of the student bodies; testing will have to reflect the changed attributes of the students; accessories will have to be developed to assist the less well prepare with their learning and development.

Other implications for higher education include:

- Higher education will have to react much more swiftly to the rapidly changing environment than it does today;
- Its development cycle will have to become shorter and more agile
- On the other hand, but also fueling the need for swift response time, the programs life cycles will become shorter;
- Higher education will have to find way to resolve the dilemma whereby students need more specialization on the one hand, but problems require more and more multi-disciplinary approach on the other hand.

## 5. A new paradigm

There seems to be little doubt that higher education continue to operate in the late 20<sup>th</sup> century format. Therefore, a new paradigm is needed, in order to provide better service to all stakeholders of this system (see Raanan, 2xxx, for a discussion of higher education's stakeholders). This new paradigm is based upon the well-known principles of specialization and segmentation: a service provider must tailor its offering to the various markets in which it operates, and specialize the offering so that it best fits every separate segment. Consequently, the proposed new paradigm is based on the following concepts:

- Bachelor's degree should be taught, to those seeking to enter a higher education institute as an employment enabling vehicle, in large classes, in an environment – and settings - resembling more a high school than a University; students looking for research capabilities should be taught separately – in smaller classes, by active researchers and with close supervision/tutoring. Transfer between these two systems should be easy, two-way and well defined. The question of whether these two should be separate entities or just divisions of the same institute can be left to the individual institutions, though reasons of quality, costs, organization and management seem to favor separate institutions over just a division into divisions within a single institution. These institutions will be called "First Tier Higher Education" (FTHE).
- Programs for the Ph.D. degree should emphasize research and enable cross-disciplinary learning. Since the problems the students will face are unknown, the major effort should be made in acquainting them with other disciplines (and their tools and methods) rather than limiting their study to a narrow specialization. These institutions will be called "Research Level Higher Education" (RLHE).
- Master's programs may reside in either institution, depending on the nature and goal of the program. Those programs that are an extension and enhancement of the professional, job-centered education should remain within FTHE, while those programs that emphasize research should belong to RLHE.

## 6. Summary and future work

We have presented in this paper the changing landscape of higher education and the reasons why the old paradigm will not hold much longer. Then, a new paradigm has been proposed, one that separates structurally as well as contextually the institutions providing bachelor's and professional master's degrees from those institutions delivering education that is predicated on research, leading to Ph. D.'s.

This is an initial proposal, though the author believes that the suggested new paradigm has no significantly different, viable alternatives. There still remains a lot of work to be done in the organizational design of these new institutions, as well as in the process of achieving social acceptance – among the higher education community members as well as in the general public.

## 7. References

Fisch, Karl, McLeod, Scott, Brenman, Jeff, Did You Know?

[http://www.youtube.com/watch?v=ITgubsfKo3Y&feature=player\\_detailpage](http://www.youtube.com/watch?v=ITgubsfKo3Y&feature=player_detailpage)

Friedman, Thomas L., 2005, **The World Is Flat**, Farrar, Straus & Giroux, April

Peters, Tom, 1997. **The Circle of Innovation: You Can't Shrink Your Way to Greatness**, Hodder and Stoughton, London.

Raanan, Yossi, 1998. "**TQM for University - Can We Practice What We Preach?**", TQM for Higher Education – Toulon Verona Conference I, Toulon, France, September 1998.

Raanan, Yossi, 1999. "**TQM for University: If We Can't Practice What We Preach, What Should We Change – Our Practices or Our Preaching?**", TQM For Higher Education – Toulon Verona Conference II, Verona, Italy, September 1999.

Raanan, Yossi, 2000. "**Is The University Dying? Some thoughts about the future of higher education at the turn of the New Millennium.**", TQM for Higher Education – Toulon Verona Conference III - Quality in Higher Education in the New Millennium, Derby, England, August 2000.

Raanan, Yossi, 2003. "**Can Higher Education Ever Satisfy Its Customers?**", TQM For Higher Education– Toulon Verona Conference VI, Oviedo, Spain, September 2003.

Raanan, Yossi, 2004. *"If We Cannot Please All Higher Education Which Should We Satisfy?"*, Quality in Services – Toulon Verona Conference VII, Toulon, France, September 2004.

Raanan, Yossi, 2005. *"Faculty Members as Higher Education's Customers - Can We Achieve Loyalty?"*, Quality in Services – Toulon Verona Conference VIII, Palermo, Italy, September 2005.

Raanan, Yossi, 2007. *Higher Education's Roles in the 3rd Millennium: Are We Equipped to Perform Them?*, Quality in Services – Toulon Verona Conference X, Thessaloniki, Greece, September 2007.

UNESCO 2005, Student Numbers, 1971-1998.

UNESCO 2006, Student In Tertiary Education, 1971-1998

World Bank, 2005. World Development indicators, pages 56-59

# ORGANIZATIONAL CHANGE & DESIGN FOR STRATEGY DEPLOYMENT

## **António Ramos Pires**

UNIDEMI, Department of Mechanical and Industrial Engineering - Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa; [antonio.pires@estsetubal.ips.pt](mailto:antonio.pires@estsetubal.ips.pt)

## **Ana Rolo Alves**

UNIQUA, Unidade para a Avaliação e a Qualidade do Instituto Politécnico de Setúbal; Escola Superior de Ciências Empresariais –IPS, [ana.rolo@esce.ips.pt](mailto:ana.rolo@esce.ips.pt)

## **Abstract**

The globalization phenomenon introduced new competitors and changes in the markets, and forced many organizations to change the way they operate. To deal with this new competitive environment, companies need to change production process and other implanted systems. Changes in the markets and the increase of competition require new organizational solutions and new forms of business cooperation. Collaborative networks (Alliance Network, Cooperative and Cooptitive Networks, Virtual Organizations, Joint Ventures) are the new organizational formats to recent collaboration between the companies. The synergy resulting from this collaboration represents an asset for all parties.

The organizational design is needed to sustain the strategic and operational goals, and allow organization to be changeable, flexible and agile to adapt to the dynamic business environment that is changing all the time.

The research project presented in this paper is included in a larger one related to supply chain management, integrating concepts from lean, agile, resilient and green perspectives. We intend to understand how the market changes and the consequently changes in strategy will produce changes in the organization and structure. An international automotive company is used as case study. The partial results will be presented and discussed.

**Keywords:** Organizational Design, Strategy Deployment, Quality.

## 1 Introduction

In the last two decades, the world of business has undergone radical changes. Economic growth and globalization increased competition and complexity, and technological “revolution” (with advances in the information and communication technology, particularly the internet and electronic commerce), represents new challenges for the company’s strategic management, playing an important role in the necessary reshaping of organizational processes and of relationship with the stakeholders. In today’s highly competitive world, markets and customers are changing, and organizations will have to change too (Hesselbein et al., 2009). This adjustment, to the market new reality, depends on the management and its style, which is the basis for selecting a strategy that will lead the company to success in its new conditions (Burton, 2004).

Companies are under pressure to reduce production costs in order to: improve and maximize profits; offer innovates and quality products and services to which target and expanding their activity gaining market leadership; increase their productivity and competitiveness to face strong competition from emerging countries. However, customers will not be satisfied only with quality products; they want quality products, quality services, and increasing value. Political, social, economic and geostrategic transformations, also made the entry in this century an adventure of unknown contours and largely unpredictable.

Lee Kun Hee, chairman of Samsung Electronics refers that *“we are facing a real crisis. Many global companies are experiencing enormous challenge and uncertainty of the future, Samsung is not the exception. In 10 years, the majority of products that represent Samsung today may no longer exist. We must have a new start. There is no time to hesitate”*<sup>1</sup>.

Globalization phenomenon introduces new competitors and changes in the markets, and forced many organizations to change the way they operate. To deal with this new competitive environment, companies needs to change production process and other implanted systems. Changes in the markets and the increase of competition require new forms of business cooperation. The collaboration and cooperation strategies have the relational trust as the main pillar.

It is very important to analyze and design efficient supply chain networks, answering changes in demand, supply, labor, transportation, and outsourcing initiatives to sustain a strong, highly competitive supply chain; determining facility location and capacity requirements, evaluating different transportation and inventory strategies, selecting vendors, minimizing risks, and performing profitability and cost analysis.

This paper aims to study organizational change and design for strategy deployment, of the supply chain. Some options of design of organizational structure that allow SCM best results will be presented, in terms of coordination, collaboration, synergy effects and performance, integrating simultaneously “LARGe SCM” paradigms, helping supply chain to become more efficient, streamlined and sustainable. It intends to understand how the market changes and the consequently changes in strategy will produce changes in the organization and structure.

---

<sup>1</sup> <http://www.bloomberg.com/news/2010-08-30/samsung-s-rebounding-lee-sees-product-crisis-as-choi-tries-to-triple-sales.html>

The first step is to understand change objectives and the environment challenges (opportunities and threats). It is useful to understand the business processes and the interface between the company and stakeholders, volume of activities and levels of resources; advising development of new models for processes and interfaces; and using them to define new structures, roles and relationships.

To design the better organizational structure it is also needed to clearly define goals and vision. Cultural alignment, communication, transparency and talent retention are some of the key attributes that need to be well laid out too. This must be done interacting with the most important stakeholders (such suppliers, customers and others), to be able to come up with the best solutions. Some restructure, improving specific business processes and organizational change will be needed.

A top-down organizational design approach is adopted by taking into consideration all challenges that could be faced and thereby defined strategies to create an efficient design. This methodology can be implemented comprising the following steps: Detailed discussion with stakeholders thereby identifying the goals and vision for the project; Identify key challenges faced and opportunities to be explored; recognize key parameters for designing the organization structure; benchmarking the structure with industry best practices; defining roles and responsibilities.

## **2 Organizational Design**

Organizational design is an important aspect of management, it is the way in which the activities of an organization are arranged and coordinated, so that its mission can be fulfilled and its goals achieved. The way in which an organization is designed will determine how efficiently and effectively the activities are carried out. More specifically, design defines the configuration of organizational members; the types of mechanism used to integrate and coordinate the flow of information, resources and tasks and decision making (Lewis et al., 2004). The same authors refer that in the last years innovative organizational designs are emerged, as a method for competing more effectively in the global market, using ICT more strategically enhancing the responsiveness of the organization, and improving the quality of its products and services.

To achieve success, an organization needs to develop an organizational design that sustain the strategic and operational goals, and allow organization to be changeable, flexible and agile to adapt to the dynamic business environment that is changing all the time.

Effective design is the key to managing the complexity that results from developing new products, entering new geographic markets or purchasing new raw materials from new suppliers. The more complex an organization's operation, the more sophisticated its design must be.

Designing is concerned with how the organization's features (e.g. structure, processes, people, rewards systems) are orchestrated over time to sustain strategic intent, identity and capabilities (Lawler, 2006).

Lawler et al. (2009), refer the importance of organizations to think constantly about potential alternative futures, and to adopt a strategy development process that continuously monitor the environment. The key design principle here is to maximize the “surface area” of the organization by connecting as many employees as possible with the external environment. The Surface area could be increased by adopting front-back, process-based or network structures that increase the centrality of customer (Galbraith, 2009).

Designation	Autors
Networked organization	Drucker (1988)
Learning Organization	Senge (1990)
Virtual Organization	Davidow & Malone (1992)
Relational Organization	Keene (1991)
Boundaryless Organization	Ashkenas et al., (2002)
Crazy Organization	Peters (1992)
Cluster Organization	Mills (1991)
Human Organization	Savage (1996)
Democratic corporation	Ackoff (1994)
Centerless Corporation	Pasternack & Viscio (1998)
Intelligent Enterprise	Quinn (1992)
Re-engineered Corporation	Hammer & Champy (1993)
Customer centric organization	Galbraith (2002)

**Fig. 1** – Organization or corporation designations by different authors.

## 2.1 How Process Approach can Design Organizations

Nowadays, Organizational Design assumes new and decisive dimensions, namely relationships between life cycle of organizations and life cycle of products. Product Life Cycles and consequently their development cycles are more and more shorter, implying more frequent and drastic designs. However, organization designing and manufacturing products remain essentially with same structural solutions as well as same planning and thinking methods.

Similar to products, organizational solutions (e.g. hierarchical and functional structures, divisional, geographical and products units) are results of team management activities. In this way, organizational design can be seen as a process: inputs and outputs, interrelated activities and interactions between and with competitive environment. Typically, Context, Mission and Vision will be inputs, and organizational structure and strategy (long term objectives, products, markets and technologies) will be outputs. Sub processes of this main process are Promulgation, Selection and Retention. These translate organizational requirements into organizational solutions and strategic objectives (Whittington and Gerdoff, 1999). Following this first macro process, a second one will translate strategic objectives into a network of processes: business and support processes (Figure 1).



A fundamental question is based on “how can an organization answer to shortening of product life cycle and development cycles, without changing structural solutions as well as planning and thinking methods?”. As a consequence we tried to find out the essential elements of organizational development dynamics.

Quality professionals, sometimes without theoretical support, have designed empirical - intuitive approaches underlying decisive role of top management. Lillrank (2003) justifies this situation because quality is an universal concept (everybody agree on a good quality), allowing large movements, what is not possible around other concepts. Some of these approaches seem today naïf and limited, mainly because have believed in their determinism and forgot their limitations and typical uses. However problems remain, evidenced by radical technological transformations and implications on national, regional and international organizations.

In other hand, radical changes in some processes did not reverse in improvements at overall organization. Keen (1997) call this the “process paradox”.

These findings have lead for the redesigning need, either at processes and activities level, or at organizational level. Although it is not a new theme it assumes new and decisive limits and lines addressed, namely by economy globalization, quick development of TIC (Technologies of Information and Communication) and driven by increasing and differentiated client demands.

Attempts to explain options and functioning of dominant organizational solutions revealed to be based on determinist and algorithmic thinking and consequently could not understand and guiding for adequate answer to dynamic competitive environment (Dervitsiotis, 2003; Stacey, 1995). Pires (2004, 2006) proposes a methodology for this purpose, as illustrated in Figure 1.

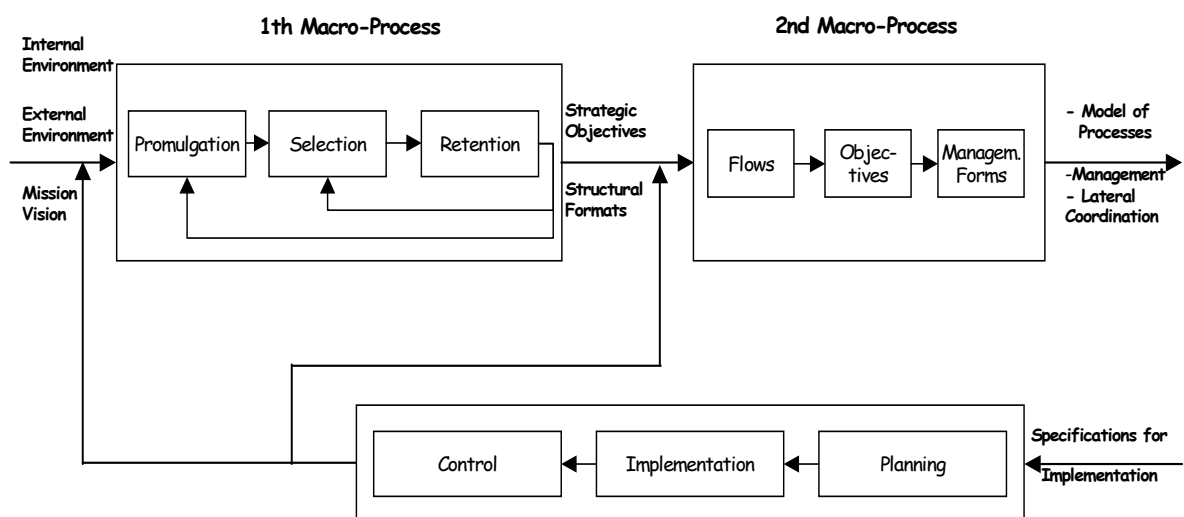


Fig. 2 – Methodology for Organization Design (Pires, 2004, 2006).

### 3 Organizational Strategy and Structure

The strategies, structures, information systems and planning processes are now components of a multidimensional organization perspective. (Galbraith, 2009).

Strategic choice and contingency theories regard organization design as the process of choosing and implementing a structural configuration (Mintzberg, 1979). These perspectives suggest that organization structure should be designed to accommodate the firm's strategy (Chandler, 1962) and environmental uncertainty (Lawrence e Lorsch (1967).

There is no universal design appropriate for all organizations; there is a specific design for each organization that is a function of the size, product diversity, geographic coverage, strategy, and other variables.

When a business starts up, the organizational structure that best fits is the functional or "line and staff". In the functional structure, the resources are organized by functions: e.g. operations, product development, marketing, finances, logistics; and each function director, reports to CEO. It is the ideal structure when the production is not diversified.

To attract investors and to maintain some companies' expansion to other markets and other countries, some companies innovate in new products or services, in marketing or they focus on a specific and specialized market. The growth strategy drives simple functional organization to diversifying production or the business areas, and then it is time to change the organizational structure to a divisional structure or strategic unit structure, where the business unit reports to CEO. If the growth strategy leads to expand internationally, the companies adds a new division and adopts a three dimensional matrix design (Figure 3) consisting of functions, business units and geographies (Galbraith, 2009).

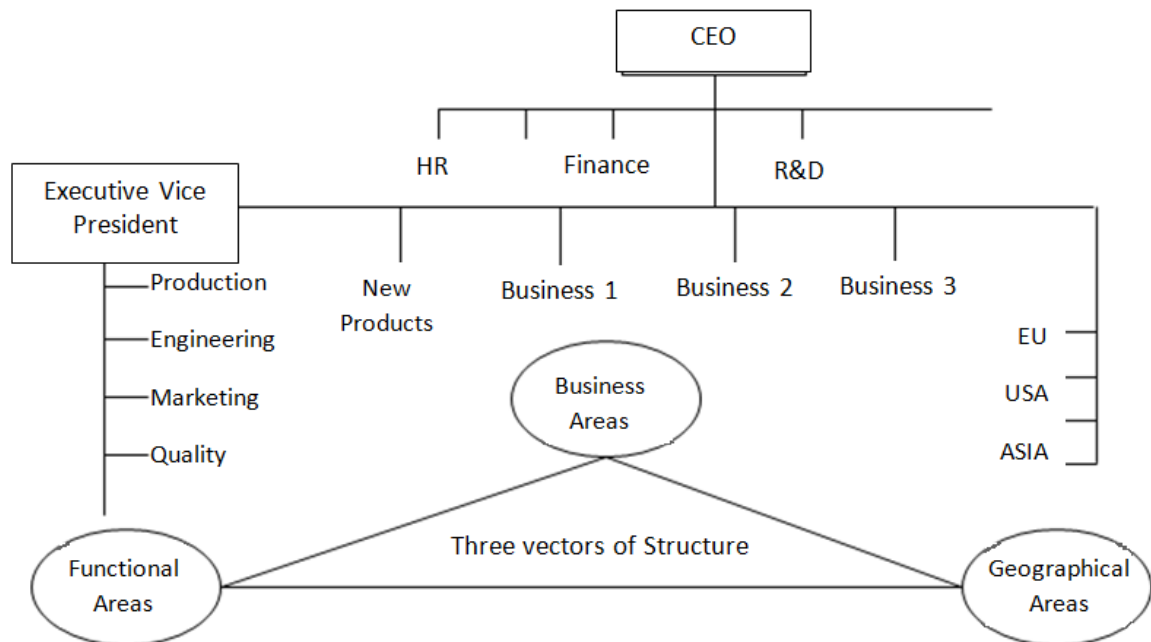


Fig. 3 – Three dimensional Structure (Galbraith, 2009).

Companies and territories are organized in networks of production, management and distribution; the core economic activities are global – that is they have the capacity to work as a unit in real time, or chosen time, on a planetary scale (Castells, 2001).

Chandler (1962), defends his main thesis that strategy determines structure. He concluded that organization structures follow the growth strategies of firms and he also found that growth strategies tended to follow certain patterns. Changes of strategy (e.g. expansion of volume, geographical dispersion, vertical integration, and/or product diversification), only can be well succeeded if managers are willing to wrench their organizations into new forms or structures (a centralized, functionally departmentalized structure or multidivisional, decentralized structure).

Chandler's (1962) growth strategies:

- **Strategy I:** the initial stage typically involves plants, sales offices, or warehouses in a single industry, a single location, and performance of a single function. Simple structure characterized by high centralization, low formalization and low complexity
- **Strategy II:** *Volume Expansion*, producing selling and distributing more of their product or service to customers;
- **Strategy III:** *Geographic Expansion*, continuing what it was already doing in new geographical areas, with new field units;
- **Strategy IV:** *Vertical Integration*, as firms either buy or create other functions;
- **Strategy V:** *Product Diversification*, involving the firm in new industries either through merger, acquisition, or creation (product development).

Ansoff (1965), based his work on studies already developed by Chandler, introducing new strategic concepts. He developed a strategic framework linking the different strategies (product development and market development strategies, horizontal and vertical integration and diversification strategies).

These strategies allow organizations to seize opportunities and meet future challenges. He developed the gap analysis still used today in which we must understand the gap between where we are today and where we want to be, so we can develop what he called "actions to reduce the difference".

As a firm moves through each stage, it must change its organization structure.

The structure of great enterprises are: multidivisional, or “decentralized”; i.e., a “general office plans, coordinates, and appraises the work of a number of operating divisions and allocates to them the necessary personnel, facilities, funds and other resources” (Chandler, 1962)

#### **4. CASE STUDY –a Multinational Car Manufacturer (MCM)**

To validate some theoretical knowledge, namely the ways companies establish strategies and structural formats, a case study has been conducted in a MCM in Portugal, within a large project: LARGE SCM – “*Lean, Agile, Resilient and Green Supply Chain Management: Organizational change & design for strategy deployment*”.

This project is being carried out under a protocol between MCM and the UNIDEMI - Research unit of the New University of Lisbon. The project is composed of ten tasks. The task 5 that we are working on, it concerns about the “*Organizational change for design & deployment strategy*”.

The data collection procedures consist in interviews to the middle and senior level staff of Supply Chain department.

Before the interview, the research team collected background information from secondary sources such as MCM website, press releases and internal magazines. With this information and based on the literature review, the team designed interview questions and sent it to MCM a week before.

The main objective of the presented research is to study and understand the relation between the definition or change of strategy and the design of organizational structure, to allow increasing the responsiveness of companies and their competitiveness in the global marketplace increasingly unstable, validating or not the theories that point to the influence of the strategy in the organizational structure designing.

The research team chose the case study methodology, performed in MCM.

The data was collected by interview realized at the company, on 17th June, 2011 (primary data), complemented by secondary data, that are available on the company website.

MCM is an automotive industry company. The material collection aimed to study the impact of strategic changes that have occurred in the MCM organizational design or structure in the last 5 to 6 years. Through the auscultation of the management we attempted to:

- Identify and characterize the organizational strategy in 2005/2006;
- Identify and characterize the current organizational strategy, in order to identify the main changes and periodicity in the review of the strategy;
- Identify the determinants of expected future developments, to meet changes in the environment (e.g. market, sector);
- Identify the "drivers" of change;
- Identify and characterize the organizational structure in 2005/2006;
- Identify and characterize the current organizational structure;
- Understand what changed in the structure and organization of work and processes;
- Identify the importance of innovation in the organization's strategy and what are the relevant events of change;
- Identify the importance of social responsibility in the organization's strategy.

The MCM has been created as a result of a "joint venture" with other car manufacturer which began in 1991. MCM led the vehicle development and the other company the planning manufacturing plant and supply. The mission of MCM was defined as the pursuit of excellence in the manufacture of high quality vehicles in the world. It was characterized by being competitive in an automotive factory equipped with advanced technology, and presents itself as a company flexible and able to face the challenges ahead, following the environmental rules and aiming to achieve quality and maximum productivity. MCM philosophy of continuous improvement is based on quality and cost reduction. MCM is positioned as one of the MCM Group in the forefront on several productivity indicators.

Till 2005, the MCM strategy had its focus on quality, and large investments had been made to ensure the most demanding customers satisfaction. Since 2005, the company has undergone a huge transformation, leaving the production of only a model, "MPV" (though three different brands), and starting to produce three different models: A (2006), the B (2008) and the C (2010).

In 2008, the strategy of MCM has changed.

At 2009 annual meeting, MCM defined new strategic objectives till 2014 (in MCM Newspapers n°136, December/2009 - January/2010).

- Becoming a benchmark (the exemplar factory) in launching new products;
- Achieve the Quality Goals;
- Produce 160,000 cars per year (annual volume);
- Produce four models;
- Reduce 50% of current costs per car, keeping current equipment and two rounds;
- Implement in 100% MCM Production System
- Adapt the organizational structure of group leader;
- Be recognized as a top employer in Portugal.

The MCM Group's strategy, known as "**2018** Strategy", is associated with Change Management, and its implementation should be completed till 2018 in all group companies. This strategy provides a "management focus on employee motivation and a manufacturing performance that follows the MCM Group objectives" "... for the "2018 " strategy, people are the action object. Improve internal communication and promote actions such as creating a nursery, an "MCM Club" or a pension fund are important steps to promote sustainability and a culture of excellence "(in MCM Newsletter n°144, October/2010). The company defined the following objectives: to reach the 6.6 million vehicles sold, achieving a return on investment (ROI) of 21% being the "top employer" and, finally, be the No. 1 in customer satisfaction, quality and processes.



**Fig. 4** – 2018 Strategy, MCM Group.  
 (Source: MCM Newsletter n°144, October/2010).

To achieve quality, MCM always betted on a culture of excellence that continues to be valued. MCM sees its employees as the key to its success, so that social responsibility is also one of the main challenges of this new strategy. This also seems to be the "Flag" of the new CEO. His leadership has put the focus on people, directing their concerns to the human factor, and for the wellbeing of employees. By defining the objective to become the top employer, MCM has been implementing some procedures, such as strengthening communication, by promoting meetings including the "Breakfast with the Director"; the dynamics of sports practice; the creation of living areas and the implementation of programs of gymnastics and fitness programs; a program to combat obesity; supporting the local community by encouraging social action and voluntary work; the opening of a shop where can be purchased different types of products, including clothing and accessories MCM, among others. It is also foreseen the construction of a nursery and kindergarten for children of employees and the creation of a pension fund.

Apart from social concerns described above, and whose main beneficiaries are the employees themselves, since the beginning of its operation that MCM had concerns minimize the effects of their activities on the environment. The "Think Blue" was recently defined (which demand excellence in terms of stowage and cleanliness).

The focus on cost reduction also remains one of the cornerstones of the strategy of MCM. If investments have been made in the past, which had the objective of setting up new production infrastructure, updating of equipment and employee training in order to make the lines and production methods more efficient and increase the skills, some of these investments have not reached the expected return. Currently, the situation is quite different and more rational in terms of application of financial resources. Thus, one of the measures adopted was to define a criterion for investment approval: only investments with pay-back to one year will be approved.

With the objective of cost reduction, AV (a MCM group company) was created in 2008, in order to remove from the company the "weight" of staff fixed costs. They work in an outsourcing strategy. The AV employees are mostly temporary workers. MCM face the production fluctuations using AV labor that are temporary and can be more easily dispensed,

thus allowing easier management of human resources in the face of fluctuating production needs.

The MCM relationship with its suppliers also has changed in the last three years.

Till 2008, the company wrote the rules and the service providers were rarely considered. Since 2008, MCM considers its suppliers as "partners" working closely with them, many of which are located in the industrial park since it supplies in JIT (just in time), others are external suppliers. Suppliers located in the industrial park deliver parts in sequence directly to the production line. External suppliers from different geographical areas (e.g. Central Europe, Northern Europe, Asia), provide the SUN (logistics provider). Subsequently, SUN supplies the production line (in the correct sequence). MCM has no stock of the components of JIT suppliers. The stock of external suppliers of components is in SUN. There is an average stock of 1-2 days, this system requires a close collaboration between MCM and their suppliers have to meet the production plan for that day for the week and month. This type of collaboration is part of the philosophy of the structures in collaborative networks.

MCM established several partnerships with various entities of the sector and others, as: AV, Training Academy, ACAP - Automobile Association of Portugal, APQ - Portuguese Association for Quality, CCLA - Chamber of Commerce Luso-German, CIP - Confederation of Portuguese Industry, ENA - Energy and Environment Agency of Arrábida, FIAPAL - Auto Industry Forum and Pamela MTM - Methods-Time Measurement.

Should be noted that three pillars of social responsibility (environmental, social and economic) are the basis of corporate strategy.

In order to continuously improve processes, forums are held regularly in "Best Practices" that include the participation of representatives of the different industrial units from the group, and aim the dissemination of good practice.

Concerning innovation, this can only happen in terms of production processes, or associated organizational structures, since, in terms of product the conception and design are defined by the parent company in Germany.

However, in terms of the production process can be considered that the MCM is distinguished by the concept of "single line" which is the ability to produce different car models of the Group into a single assembly line. This concept implemented during 2009, having developed a production platform with a single production line, flexible and capable of receiving different models in the area of final assembly, which is a huge surplus and a contribution to the desired cost reduction. Since with a single line are needed less line operators, this factor contribute to the increased rate of productivity per operator, and to a better use and job enrichment.

This operational flexibility allows reconciling the complexity of current models in production with the arrival of new products to the factory, which require flexibility and versatility of equipment and lines. Thus, the MCM becomes more versatile and competitive.

Despite the advantages presented, the single line requires a more robust production process and planning process with a more detailed and precise approach.

A greater flexibility of operators allows to meet three different types of procedures which increases the pressure on people because the faults are not admitted.

The project "Digital Plant" is also innovative and has as main objective the implementation of an integrated information system and optimization of simulation of a complete plant from production lines with detail at the production process level. With this project, MCM ensures that the Planning Production Area is equipped with all the tools necessary to take advantage of all information originating in the mother house, from the planning stage of production of pre-series cars, until the mass production later. The "Digital Plant" project should be seen as a way of working and thinking in accordance with the standard of the Group, allowing users to work in an environment with consolidated data and sharing information for the entire group of Production Planning. MCM becomes more competitive, since it is allowed the calculation of new models and components, using the same level of information available for the entire Group. Consequently, suppliers also have to work according to the standard tools MCM.

When we ask about the impacts of the strategy described above in the organizational structure, the answer was that there was no change in the functional structure that characterizes the MCM.

Thus we can conclude that, despite numerous changes in recent years, both strategically and in terms of leadership, the functional structure of MCM remained practically unchanged.

## **5. Conclusions**

Although the functional structure (with eleven functional departments) is maintained, significant changes were observed at the level of productive organization, commanded by technology and cost reduction.

There are great concerns with the flexibility and responsiveness, but bet on a single line which seems paradoxical.

The synchronization of the single line will lead to increased synchronization with suppliers, raising the question of the usefulness of an organizational structure to manage all the complexity that the chain requires. This structure would be transversal to the structures of the companies that integrate the chain.

The human factor is the main focus of the new leadership seems to be a way to increase one's qualification and motivation, as the MCM production system requires a great pressure on people.

This production scheme is to be successful.



## 6. Future Work

We consider that the present work is not completed, in future studies we intend to:

- Analyze the existing process models and the changes introduced since 2005. We have the perspective of organizational changes at the level of 1<sup>st</sup> and 2<sup>nd</sup> line directors; it will be interesting to realize changes at other structure levels.
- Understand the connection between strategy and technological changes within the process (air transportation in the productive line, three models simultaneously (what dictated this choice?).
- Understand the concept of operation of “Supermarkets” at the logistics operator SUN.
- Understand the operation of synchronized intermediate supply line of parts for specific models (supermarkets along the assembly line).
- Identify the lateral or transversal structures and their connection with the process model and the relations with supply chain.
- Discussion and comparison with other models (e.g. TPS - Toyota Production System).

## References:

ANSOFF, H.I. (1965), “*Corporate Strategy*”, New York, McGraw Hill.

BURTON, R.M. and OBEL Børge, (2004), “*Strategic organizational diagnosis and design: the dynamics of fit*”, Third Edition, Klumer Academic Publishers.

CASTELLS, M. (2001), “*The Internet Galaxy, Reflections on the Internet, Business and Society*”, Oxford, Oxford University Press.

CHANDLER, A (1962), “*Strategy and structure: chapters in the history of the industrial enterprise*”, Cambridge, Mass.: M.I.T. Press.

DAFT, R.L. (2010), “*Organization Theory and Design*”, Tenth Edition, South Western Cengage Learning.

DERVITSIOTIS, K, N. (2003) “ *The pursuit of sustainable business excellence: guiding transformation for effective organizational change*”, Total Quality Management, Vol 14, No 3, pp. 251-267.

GALBRAITH, J.R. (2009), “*Multidimensional, multinational organizations of the future*”, Chapter fifteen in HESSELBEIN, F.; GOLDSMITH, M. (Editors), (2009), “*The Organization of the Future 2 – Visions, Strategies and Insights on Managing in a New Era*”, Leader to Leader Institute, Josset-Bass, 174-187.

GALBRAITH, J.R. (2002), “*Designing organizations: an executive briefing on strategy, structure and process*”, San Francisco, Josset-Bass.

HELSELBEIN, F.; GOLDSMITH, M. (Editors), (2009), *“The Organization of the Future 2 – Visions, Strategies and Insights on Managing in a New Era”*, Leader to Leader Institute, Josset-Bass.

HELSELBEIN, F.; GOLDSMITH, M. e BECKHARD, R. (Editors), (1997), *“The Organization of the Future”*, The Peter Drucker Foundation, Josset-Bass.

KEEN, P.G.W. (1997), *“Process Edge: Creating Value Where it Counts”*, Watertown, MA, Harvard Business School Press.

LAWLER, E. and WORLEY, C. (2006), *“Built to Change”*, San Francisco, Jossey-Bass.

LAWLER, E. and WORLEY, C. (2009), *“Designing Organizations that are built to change”*, Chapter sixteen in HELSELBEIN, F.; GOLDSMITH, M. (Editors), (2009), *“The Organization of the Future 2 – Visions, Strategies and Insights on Managing in a New Era”*, Leader to Leader Institute, Josset-Bass, 188-202.

LAWRENCE, P. and LORSCH, J. (1967), *“Organization and environment: Managing differentiation and integration”*, Boston, MA: Harvard Business School Press.

LEWIS, P.S., GOODMAN, S.H and FANDT, P.M (2004), *“Management: Challenges for tomorrow’s leaders”*, 4<sup>th</sup> Edition, Thomson South-Western, Quebec, Canada.

LILLRANK, P. (2003), Entrevista à revista Qualidade Nº 4, Ano XXXII, pp. 8-12.

MINTZBERG, H. (1979), *“Structuring of Organizations”*, Englewood Cliffs, Prentice-Hall.

PIRES, A.M.R. e Pereira, M.O. e Machado, V.C. (2004), *“Gestão por Processos – Contributo para a Conceção e Competitividade das organizações”*, XIV Jornadas Luso Espanholas de Gestão Científica, Ponta Delgada, pp. 2307-2316.

PIRES, A.M.R. (2006), *“How Process Management Can Design Innovative Organizations”*, 11th World Congress For Total Quality Management, New Zeland: Wellington.

ROBERTS, John D. (2007), *“The Modern Firm: Organizational Design for Performance and Growth”*, OXFORD University Press.

SAVAGE, Charles M. (1996), *“Fifth Generation Management: Co-creating through Virtual Enterprising, Dynamic Teaming, and Knowledge Networking”*, Revised Edition, Butterworth-Heinemann.

STACEY, R. D. (1995), *A Fronteira do Caos*, Bertrand Editora, Lisboa.

WHITTINGTON, J. L. e GERLOFF, E. A (1999), *“Saindo da selva das teorias de gestão: Uma revisão e nova síntese”*, em M.P. Cunha (1999), *“Teoria organizacional”*, Dom Quixote, Lisboa.

# The combination of Web-Based Communication Mechanisms and Wiki Environment enable Superior Performance Achievements

## Silvia Rodriguez-Donaire

Engineering Management Department  
BarcelonaTECH - ETSEIAT  
Colom 11 - 08222 Terrassa - Spain  
+34.937.398.696  
silvia.rodriguez-donaire@upc.edu

## Daniel Garcia-Almiñana

Engineering Projects Department  
BarcelonaTECH - ETSEIAT  
Colom 11 - 08222 Terrassa - Spain  
+34.937.398.921  
daniel.garcia@upc.edu

## Iryna Barodzich

IESE Business School - Dpt. Strategic  
Management  
Avinguda Pearson, 21- 08034  
Barcelona - +34.932.534.200  
IBarodzich@iese.edu

## ABSTRACT

The aim of this Work in Progress (WiP) is to assess the effect of using chat and thread discussion on effectiveness of collaboration through Web-Based Collaborative Environments (WBCEs), particularly platform wikis.

In order to prove that, this WiP will describe the experiment with four different scenarios that has been conducted at the beginning of this month. Each scenario is formed by 16 groups of three random students from Technical studies at the ETSEIAT, an UPC Engineering School, particularly candidates from Industrial and Aerospace Engineering. Some of the groups will work in face-to-face basis (control group) and the others will use the WBCEs (GoogleDoc Platform as a wiki). The groups that are using the WBCEs scenario will be using whether the wiki platform only or the wiki platform integrated with an online communication tool (chat or forum). In the last three scenarios, each member will have one computer and the communication among the members of the group will be made through the assigned WBCE. These groups have to deliver the final team collaboration report through the wiki space. On the other hand, the Face-to-Face group has to deliver the final collaboration report in a paper format.

We expect that this WiP would bring up new insights on WBCEs effectiveness. We expect that

the groupware performance will improve by means of the online communication tools, because they promote social interaction, discussion and collaboration in online environments. However, we are dealing with students that are “*technology based learners*” and a preliminary results, conducted in a pre-pilot experiment, show that some of our assumptions differ from what we expected.

## Keywords

Wiki; Web-Based Collaborative Environment (WBCE); Computer-Supported Collaborative Learning (CSCL); online communication tools; effectiveness, collaboration.

## 1. INTRODUCTION

A new generation of web-based collaborative tools such as social networking sites, blogs, wikis, etc. has increased in popularity, availability, and performance in recent years. These web services are commonly referred in the Web2.0 technologies literature. Term officially coined by O'Reilly Media in 2005 [1]. The author emphasizes that web-based tools facilitate a more socially connected web where everyone is able to communicate, participate, collaborate and add to and edit the information space [2, 3 and 4]. We are going to refer to these tools as Web-Based Collaborative Environments (WBCEs) that allow asynchronous and

synchronous Distributed Learning Groups (DLGs).

Particularly, this WiP is focused on wikis - simple websites that anyone can edit -, which we include in the WBCEs. Wiki enables groups to jointly coordinate their effort to solve, create and share content for ad-hoc problems [5] with decentralized knowledge sources [6]. This platform can house large and up-to-date knowledge repositories [7] and enhance the creation and transmission of knowledge among users by means of dynamic interactions [8].

Currently, an increasingly interest is growing in web-based environments for collaboration. For instance, the Information System (IS) community is paying considerable attention on how these new Web2.0 technologies can change business practices [9] and create new internal participation architecture at businesses [10]. However, there is a poor knowledge about the online communication tools (i.e. instant messaging) effectiveness on collaboration by means of WBCEs. According to previous results [7 and 8], *“wikis should include some form of discussion board or instant messaging to make communication accessible and come to a consensus on a topic”*. Since *“the lack of discussions tools within the wiki tool seemed to be another factor that hindered collaboration”* according to [11].

According to these authors, an additional web-based communication tool will be necessary to allow task coordination to distribute the group tasks. However, [12] said that *“Web2.0 technologies are changing the way students: learn and create new ideas; share and communicate their knowledge and findings; and, interact and collaborate among them”*. A

preliminary results of our pre-pilot show results according to that author, as can be seen in the result section. Students using wiki platform as unique WBCE and using wiki platform integrated with instant messaging tool have similar performance results. However, a broad framework has yet to be developed identifying whether the best combination of web-based tools or not could help us to increase the groupware performance in WBCEs with a time constraint and defined goals. This context could be extrapolated in teaching workrooms and organizations.

Our WiP develops as follows. Firstly, we present the previous factors that influence the effectiveness on Virtual Learning Environments (VLEs). Secondly, we present the methodology used to design the conducted experiment by explaining the context of the experiment and its description. Thirdly, we describe the variables used to collect the data through two questionnaires. Fourthly, we explain the preliminary results extracted by the pilot experiment conducted and what types of changes have been made from the original experiment design. Finally, we briefly sum up our experiment design and highlight the expected results. Also, we point out the limitations of our work.

## 2. FACTORS OF EFFECTIVENESS ON VLEs

Drawing on previous research [13] in technology-mediated education an initial factors of effectiveness on Virtual Learning Environments (VLEs) are provided. These determinants come from human and design dimensions.

The human dimension is related to social interactions. Factors like group size, group composition, nature of task, among others influence the effectiveness of collaborative learning. It is reinforced when is applied to ill-structure or complex task, because these situations increase the effectiveness of social construction of knowledge [14 and 15]. Regarding on the design dimension is related to the group structure that encourages elaboration, questioning and rehearsal.

According to [16], three approaches result in group members socially interacting: 1) cognitive by including describing, explaining, predicting, arguing, critiquing, evaluating, explaining and defining within the group learning tasks; 2) direct by using specific collaborative techniques that structure a task specific learning activity; and 3) conceptual by applying a set of conditions (positive interdependence, enhanced interaction, individual accountability, interpersonal and small-group skills and group processing) to stimulate/stress collaboration.

Additionally, according to [17], there are four key factor of participation in Web 2.0 platform: trust (trust is referred to interpersonal trust that promote knowledge sharing in the aforementioned context: benevolence and competence [18]), history (history is referred to the organization inertia imposed by previous experience), outcomes expectations (outcomes expectations is referred to the expected consequences of one's own behaviour [19]) and organizational or management support (organization or management support is referred to provide the necessary training and reward participation). The former three are related to the

social interactions while the last one is related to the group structure.

These previous detected factors drive us to think about a number of variables that assess these two dimensions. These dimensions are seen as individual patterns of behaviour (human dimension) and a group performance by means of WBCEs (design dimension). On one hand, referring to human dimension eleven variables are considered: introversion, extroversion, teamwork, flexibility, experience with technology, experience with e-collaborative tools, self-monitoring, power, self-esteem, need to belong and community exchange orientation. On the other hand, referring to design variables eight variables are considered: partner's previous knowledge, preliminary group perception on results, team coordination effectiveness, team collaboration evaluation, web-based systems evaluation, activity complexity evaluation, group interpersonal skills and performance activity score.

### **3. METHODOLOGY**

In order to achieve significant results, a large number of students will be involved (180 students). Currently, the pre-pilot experiment was conducted with 12 students (four groups of three students each). This pre-pilot attempts to both test materials and evaluate procedures for the WBCEs activity design (wiki alone, wiki plus email, wiki plus thread discussion and wiki plus instant messaging). These preliminary results will help us to decide which type of online communication tools we will use in the experiment and if any redefinition of the activity is necessary.

To conduct the pilot activity the following tasks have been designed:

- **Personality survey design.** Mainly to evaluate participants social skills and attitudes in front of team work and collaborative work.
- **Cooperative exercise design.** A two-part exercise has been developed. It has to be solved in groups of three students. The first part consists of the reconstruction of an original text about vacuum technology, which has been split into individual sentences randomly distributed among the three members of the group. After that, a 100 words summary of the text has also to be performed.
- **Activity evaluation survey.** Mainly to evaluate participants collaborative skills and attitudes in front of team work by means of WBCEs.
- **Reaction survey.** In order to get additional data to clarify the specific achieved results. That reaction survey helps us to evaluate both materials and procedures during the pre-pilot.
- **Performance evaluation rubric.** It will have twofold objective: 1) an evaluative objective and 2) a design objective. Firstly, the rubric will help us to evaluate the achieved results of each group. Secondly, if the activity was well designed and which is the score performance in each group. The group performance will give us an inside about which tool is not showing significance in our study.

Additionally, different materials to explain how a wiki works and how to use each specific

communication tool were also developed in the form of educational videos. In this way, every student could see as many times as they need the different aspects of the activity.

The real experiment will be conducted with 180 students at the beginning of this last month.

### 3.1 Experiment description

Our research question is to assess the effect of using online communication tools on effectiveness of collaboration by means of WBCEs, particularly wiki platform (GoogleDoc).

According to the previous question an experiment was designed and conducted in order to get valuable data around it.

#### 3.1.1 Objectives

One main objective was set out at the definition phase of the experiment:

- Measuring the effectiveness of different communication tools (instant messaging and thread discussion) in WBCEs to develop virtual work in groups.

In other words, the pre-pilot experiment is intended to measure the effect of using email, instant messaging and thread discussion on the effectiveness of collaboration through wikis.

#### 3.1.2 Preparation – Pre-pilot

To check and evaluate materials and procedures, a pre-pilot was conducted three weeks before the scheduled date for the formal experiment.

In the pre-pilot, 12 students in groups of 3 worked with the materials. Each group performed the two designed exercises (text reconstruction and 100 words summary) using one of the available tools:

- Wiki only tool (no communication besides wiki will be used).
- Wiki plus email (considering that this is the most usual situation, in other words, the one that students face every day when they conduct a group task).
- Wiki plus thread discussion (an alternative to email that allows a classification and categorization of discussions, producing in theory a better knowledge construction when working at an asynchronous mode).
- Wiki plus instant messaging (although an instant messaging is less structured than a thread discussion, it is supposed that can produce better results in a synchronous activity, since the students are highly users. However, the students could be lost very easily).

Time schedule for this activity was:

- Initial presentation of the objectives of the activity and a brief presentation of the wiki and communication tools (around 30 minutes).
- Personality survey (10 minutes).
- Development of the two exercises (50 minutes).
- Activity survey (10 minutes).
- Reaction survey (10 minutes).
- Final, recorded group interview (20 minutes) in order to identify misunderstandings in any

of the questions of the different surveys or in the exercises themselves.

A little more than two hours were used for this pre-pilot experiment. The students participating in it were economically rewarded and were students from a similar level than the students taking place in the final test (first year engineering degree).

Additionally, three lecturers and two assistant students were in charge of the development and critical observation of this pre-pilot.

### *3.1.3 Pre-pilot validation – Test adaptation*

After assessing the teamwork activity performance, having analyzed the different surveys and interviews and putting the observer observations altogether, which were participating in the pre-pilot, some changes were decided to include before the final experiment in order to improve the performance of the achieved results. The main adopted changes were:

- Change some questions of the personality test that may lead to confusion when answering them.
- Include additional questions in the activity survey in order to take into consideration specific situations and problems detected at the pre-pilot level. Some other questions were included in order to let them explain the strategy they followed in arrange the group collaboration.
- Increase the level of difficulty of the first exercise. Initially this reconstruction exercise was based on a 13 sentences scientific text, randomly distributed in groups of 4 to 5

sentences to each student. At the final test 15 sentences were used (the initial 13 sentences plus 2 extra sentences that the group should discard). This increases the positive interdependencies, which is one of the key aspects of that kind of experiments.

- Eliminate one of the communication systems. After the evaluation and final interview it became clear that thread discussions and email can bring to very similar results and, eliminating one of the systems it would be possible to enhance the sample for each of the remaining communication systems. Additionally, another factor that drives us to take email scenario out of our experiment was that it was not integrated into the wiki platform.
- Include an additional observer in each face-to-face group (face-to-face groups will serve as control groups, in order to evaluate the performance in a traditional teamwork technique). The role for this observer is defined as taking the minutes of each face-to-face meeting, thus giving extra information when assessing the specific collaborative performance of each group.

These modifications were developed during the prior days to the test scheduled date.

#### *3.1.4 The formal experiment*

The experiment will be conducted by the beginning of June 2011 with all the students enrolled in the subject “*Industrial Technologies*” which is taught at the first year of the Industrial Engineering Degree.

A total of 180 students were split into 57 different groups:

- 16 groups working under the wiki only tool.
- 16 groups working under wiki plus thread discussion.
- 16 groups working under wiki plus instant messaging.
- 9 groups working face-to-face.

As a result, 144 students worked with WBCEs and 36 students worked under a traditional teamwork technique (Face-to-Face). Additionally, eight lecturers and three assistant students were acting as observers of the process.

At this time of the preparation of this paper, no numerical results are still available of this experiment, but by the oral presentation they already will be analyzed.

## **4. SURVEY DEFINITION**

Two surveys have been implemented to help in the evaluation process of this experience:

- Personality survey.
- Activity survey.

The variables that have been measured at the personality survey are eleven: introversion, extroversion, teamwork, flexibility, experience with technology, experience with e-collaborative tools, self-monitoring, power, self-esteem, need to belong and community exchange orientation.

In total 76 specific questions were made at each personality survey to develop the previous factors. This survey was conducted just at the



start of the activity, after a brief presentation on the exercise and the tools to be used.

The variables that have been measured at the activity survey are seven: partner's previous knowledge, preliminary group perception on results, team coordination effectiveness, team collaboration evaluation, web-based systems evaluation, activity complexity evaluation and group interpersonal skills.

In total 78 specific questions were made at each activity survey to develop the previous factors. This survey was conducted just at the end of the activity, after having solved the exercises.

Personality and activity variables, as well as, performance activity score will allow a better understanding of the effect of using instant messaging and thread discussion on effectiveness of collaboration by means of WBCEs.

## 5. RESULTS

The performance of the exercise (scoring) will be measured through two different rubrics (one for each exercise). In the first one (to evaluate how close the reconstructed text to the original one is) four parameters will be identified:

- Number of sentences that match exactly in the exact order. It will be considered when groups of three or more sentences have been presented. One point will be given for each sentence performing like that.
- One extra point will be given for each group of at least three sentences in which there is only one change in the correct order of the sentences (for instance, if instead of identifying sentences 4, 5 and 6, the group identifies 4, 6 and 5, or other slight changes).

- Maximum number of sentences in one group of sentences that is well reconstructed. Two points if there are three sentences, three points if there are four sentences, four points if there are five sentences and six points if more than five sentences have been well reconstructed in a same group.
- Up to two additional points for each fake sentence that has been correctly identified.

For the second exercise (summarizing in no more than 100 words the previous text), 45 key words have been identified by one expert when analyzing the original reconstructed text. Assessing of this part will give one point for every two words in the summarized text that match any of the previous 45 key words. A penalty of one point will be applied for every two extra words in the summary surpassing the figure of 100.

Preliminary evaluation of the performance results of the pre-pilot show that using these evaluation rubrics, maximum scores of 30 were achieved and also the minimum score was 8. However, one group per online communication tool isn't enough to get specific results and pre-pilot activities will only serve as a test of materials and procedures, not as performance indicators.

When defining the formal experiment, it was thought that face-to-face groups (control groups) and wiki plus instant messaging groups will achieve similar performance results. Similarly it was thought that email and thread discussion would achieve lower performances than previous ones but similar between them. It was also thought that the wiki without additional online communication tools would deserve the worst results.

After the pre-pilot it became clear that email, as the most popular communication tool, would be less useful in a synchronous experiment than the one being described and, for this reason, as well as for not being integrated in the wiki platform was discarded.

Final evaluation of the factors identified in the personality and activity surveys will show if those factors are real dependent variables for the online communication tool effectiveness on collaboration on WBCEs. It is expected that significant differences will occur in the evaluation of the performances of the group activity using the different online communication tools and it would be relatively easy to identify which of the previous factors have a relatively low incidence in the overall performance of the group, as well as, the effectiveness of online communication tools in collaborative environments.

It is also expected that some of the factors may lead to controversial results (for instance, groups performing good (or bad) results and having very different perception in one or more factors). In this case further research would be necessary to clearly include or exclude such factors into the performance evaluation of the group's results.

It is also expected that some of the factors will clearly correlate, thus giving insights on their incidence in the global performance of the group, as well as, the level of effectiveness of the wiki plus online communication tools being used.

## 6. CONCLUSIONS

In order to prove the expected results, two questionnaires have been conducted at the

beginning and at the end of the experiment to each student individually to test their personality and their web-based collaborative work performance perception. In order to encourage group performance this activity will be assessed as a relevant part of one Industrial Engineering subject.

In sum, the expected results attempt to: 1) bring up new insights about WBCEs effectiveness; and 2) show which of the environment (with or without communication tools) brings a better effectiveness of collaboration by means of wikis in terms of collaboration.

We have to consider, according to [20], that there are different approaches to the meaning of "*collaborative learning*". It has been studied from different points of view such as the number of subjects considered or the duration of the study. In our case the experiment matches with those described in bibliography.

Other indirect conclusions will be the recommendation to design specific activities to better understand the incidence of some of the factors that during this experiment have not been clearly categorized in the global group performance.

At this moment of the study it is unclear if a quantitative measurement of the communication performance will be possible. This is due to the fact that some groups faced initial problems when starting the activity (lack of knowledge of the tool or difficulties when filling in the personality survey that caused a delay in the starting point of the group exercises). A deep analysis of the results will indicate if this situation exists and, in this case, future development of more accurate experiments should be performed.

It would also be a further activity the need to increase the number of online communication tools being used. Web-conferencing is one of the candidates that are under study at our school as far as an ever-growing demand of use of such technology has been detected in recent years.

The activity that has been developed and explained in this paper is a synchronous one (solving two medium complex exercises in a session of two hours in real time). It would be necessary to check if more complex activities or extended in time activities would lead to different conclusions.

## 7. ACKNOWLEDGMENTS

Our thanks to all students that were taking place in the experiment. We also want to acknowledge Prs. Lopez-Grimau, Hernández-Sánchez and Gonçalves for their support during the activities performed with the students. Also special thanks to the assistant students Noelia Marquez and Bruno Medina for their motivation all over the process. Finally, special thanks to Telstar Chair on Vacuum Technology for its support on this experience.

## 8. REFERENCES

- [1] O'Reilly T. 2005. "What is Web 2.0: design patterns and business models for the next generation of software", O'Reilly Media, available at: [www.oreillynet.com/lpt/a/6228/](http://www.oreillynet.com/lpt/a/6228/) (accessed 1 March 2011).
- [2] Ankolekar A., Krotzsch M., Tran T. & Vrandecic D. 2008. The two cultures: mashing up Web 2.0 and the semantic web. *Web Semantics: Science, Services and Agents on the World Wide Web*. Vol. 6, No. 1, pp. 70-5.
- [3] Pachler N. & Daly C. 2005. Narrative and learning with Web 2.0 technologies: towards a research agenda. *Journal of Computer Assisted Learning*. Vol. 25, No. 1, pp. 6-18.
- [4] Rollett H., Lux M., Strohmaier M., Dosinger G.G. & Tochtermann K. 2007. The Web 2.0 way of learning with technologies. *International Journal of Learning Technology*. Vol. 3, No. 1, pp. 87-107.
- [5] Ioannau A. & Artino, A.R. 2009. Wiki and Threaded Discussion for Online Collaborative Activities: Students' Perceptions and Use. *Journal of Emerging Technologies in Web Intelligence*. Vol. 1, Num. 1, pp. 97-106.
- [6] Cheung K., Lee F., Ip R. & Wagner C. 2005. The Development of successful on-line communities. *International Journal of the Computer, the Internet, and Management*. Vol 13, num. 1, pp. 71-89.
- [7] Orlikowski W.J. & Iaconno C.S. 2001. Research Commentary: Desperately Seeking the 'IT' in IT Research - A Call to Theorizing the IT Artifact. *Information Systems Research*. Vol. 12, num. 2, pp. 121-134.
- [8] Piccoli G., Ahmad R. & Ives B. 2001. Web-based Virtual Learning Environments: A Research Framework and a Preliminary Assessment of Effectiveness in Basic IT Skills Training. *MIS Quarterly*. Vol. 25, num. 4, pp. 401-426.
- [9] Teece D.J. 2010. Business Models, Business Strategy and Innovation. *Long Range Planning*. Vol. 43, No 2-3, pp. 172-194.
- [10] McAfee A.P. 2006. Enterprise 2.0: The Dawn of Emergent Collaboration. *Sloan Management Review*. Vol 47, num. 3, pp.21-28.
- [11] Leuf B. & Cunningham W. 2001. *The Wiki way: Collaboration and Sharing on the Internet*. MA: Addison-Wesley. ISBN 020171499X.
- [12] Wagner C. 2004. Wiki: A Technology for Conversational Knowledge Management and

- Group Collaboration. *Journal of Knowledge Management*. Vol 13, num. 4, pp. 52-63.
- [13] Kane G.C. & Fichman R.G. 2009. The Shoemaker's Children: Using wikis for Information Systems Teaching, Research and Publication. *MIS Quarterly*. Vol. 33, num. 1, pp. 1-17.
- [14] Jonassen D.H. 1991. Context in everything. *Educational Technology*. Vol. 31, Num.6, pp. 35-37.
- [15] Jonassen D.H. 1994. Toward a constructivist design model. *Educational Technology*. Vol. 34, Num. 4, pp. 34-37.
- [16] Kreijns K., Kirschner P.A. & Jochems W. 2003. Identifying the pitfalls for social interaction in computer-supported collaborative learning environments: a review of the research. *Computers in Human Behaviour*. Vol. 19, Num. 3, pp. 335-353.
- [17] Paroutis S. & Al Saleh A. 2009. Determinants of Knowledge Sharing using Web2.0 Technologies. *Journal of Knowledge Management*. Vol. 13, No 4, pp. 52-63.
- [18] Abrams L.C., Cross R., Lesser E. & Levin D.Z. 2003. 'Nurturing interpersonal trust in knowledge-sharing Networks. *Academy of Management Executive*. Vol. 17, No. 4, pp. 64-77.
- [19] Hsu M.H., Ju T.L., Yen C.H. & Chang C.M. 2007. Knowledge sharing behavior in virtual communities: the relationship between trust, self-efficacy, and outcome expectations. *International Journal of Human-Computer Studies*. Vol. 65, No. 2, pp. 153-69.
- [20] Dillenbourg P. 1999. What do you mean by 'collaborative learning'? *Collaborative-learning: Cognitive and Computational approaches*, pp. 1-19. Oxford: Elsevier.

14<sup>th</sup> “Toulon-Verona” Conference  
Alicante - Spain, 1-3 September 2011

## **ONLINE RELATIONSHIPS AND DIALOGUE ORIENTATION IN THE ITALIAN HOSPITALITY INDUSTRY**

**Stefania Romenti**, Ph.D., Università IULM, Milan, Italy

**Roberta Minazzi**, Ph.D., Università dell’Insubria, Como, Italy

**Grazia Murtarelli**, Università IULM, Milan, Italy

### **ABSTRACT**

The development of new technologies has had an impact on the purchasing behaviour of customers who are using the Web more and more frequently to purchase tourist services related to transportation and hospitality (Nielsen, 2010; PhoCusWright, 2010). Suppliers – particularly small companies - are more aware of this trend and have adjusted their strategies, investing a larger part of their communication budget in electronic channels, the Internet and mobile phones (Caroli and Pratesi, 2011). There is a fundamental need to create a more customized relationship with stakeholders, necessary for a profitable relationship with customers and based on more interactive company participation on the Web.

To this end, corporate communication researchers have studied the connection between on-line relationships and corporate performance, affirming that there is a positive connection between the ability of companies to activate and encourage relationship and dialogue strategies on the Web and their level of success (Park, Robert, 2010). These studies enrich a field that has already been explored by marketing, a discipline which has long offered many evaluation patterns for websites designed to create and encourage relationships with customers (Kotler et al., 2003; Feigenberg et al., 2002; Bai et al., 2006).

The aim of this study is to evaluate the nature of the connection between the on-line relationship orientation of Italian hotels and their dimension and level of quality. The study will begin with an evaluation model of the relationship and dialogue orientation of hospitality companies on the Web. The evaluation of the relationship and dialogue orientation of Italian hotels on the Web verifies the presence (1) or the absence (0) of each dimension of the model by analyzing the company interaction and participation on the Web (websites, social networks, etc.). The comparison between the evaluation results and the sample variables allows comprehension of the factors that generate the relationship and dialogue orientation of hospitality companies in Italy.

**Keywords: online relationship marketing, online relationship orientation, dialogue orientation, hospitality industry.**

## **1. INTRODUCTION**

The recent economic crisis and the growth of competition frequently cause the proliferation of an aggressive “tactic” based on the reduction of room fares in the hospitality industry. This action can backfire, creating an unhealthy struggle among operators of the same territory. Moreover, this practice can create confusion in customers’ perceptions of quality and expectations. In marketing literature, this is called the “strategic management trap” (Grönroos, 2000): the company with economic problems is more focused on fare reduction by reducing costs such as personnel and investments. However, more and more operators in the sector are realizing that this practice does not always work because it focuses on a short-term strategy that increases the occupancy rate but reduces performance indicators (ARR-Average Room Rate, RevPar) and loyal customers. Therefore, it is necessary to develop a strategy aimed at maintaining long-term customer relationships by means of service differentiation and personalization.

Moreover, if we consider new technological development, the purchasing behaviour of the customer has increasingly changed, especially in the transportation and hospitality services (Nielsen, 2010; PhoCusWright, 2010). Therefore, the ability of the company to communicate online by means of its website and social media is vital for creating a continuous dialogue and long-term customer relationships. In fact, tourism operators, especially small and medium-sized companies, are becoming more and more aware of this trend and adjust their strategies, assigning a larger part of the communications budget to electronic and mobile channels. They also actively join social networks and develop relational website functions to improve their reputation (positive word-of-mouth).

The objective of this study is to evaluate the online relationships and dialogue orientation of the Italian hotels according to dimensional and quality variables, and to understand their key features.

The concept of the online relationship orientation of Italian hotels is defined by a literature review of relationship marketing and corporate communication.

The study focuses on the hotel operators in the city of Milan. The paper is divided into three parts. The first part analyses the concept of online relationship orientation, starting from the streams of research of online relationship marketing, stakeholder relationship management and dialogic public relations theory. In the second part, the concept of online dialogue orientation is applied to the specific features of the hotel companies and the evaluation matrix is described. In the third part, the online dialogue orientation of Milan hotel companies is measured and the relationship to dimension and quality level variables is studied. The results are analysed and discussed and, lastly, managerial implications are considered.

## **2. LITERATURE REVIEW**

### **2.1. Relational orientation in relationship marketing studies**

Research on the topic of relationship marketing grew in the Eighties with the development of service marketing studies (Grönroos, 1994; Pellicelli, 1997; Palmer, 1998; Lovelock, Wright, 1999; Bateson, Hoffmann, 2000; Eiglier, Langeard, 2000; Zeithaml, Bitner, 2002), the network theory and business-to-business marketing (Håkansson, Ford, 2002). The first stream of research focuses on the concept of customer perceived quality,

customer satisfaction and relationship value while the second approach considers the company part of a complex system of relationships and interactions (Gummesson, 2006).

There are many definitions of relationship. The prevalent approach in literature defines marketing as the process of identifying and establishing, maintaining, and enhancing relationships with the customer and other stakeholders, at a profit, so that the objectives of all parties involved are met (Morgan, Hunt, 1994; Sheth and Parvatiyar, 1995; Grönroos, 1997; Kotler, 1999). The company is influenced by a great deal of market relationships that are beyond the control of the marketing and sales department (Gummesson, 1999; Gummesson, 2002). The value of the relationship is based on a continuous dialogue between partners that creates new knowledge (Grönroos, 2000).

In recent decades, interest in relationship marketing has emerged due to greater recognition of the benefits of relationship marketing to both firms and customers, and rapid advances in information technology (Berry, 1995).

New technologies offer companies the opportunity to interact with customers from the very first stages of product development. The customer can take part in the value-creation process (co-creation), personalizing his experience through interaction and dialogue (Pralhad, Ramaswamy, 2004). Moreover, new technologies also have an influence on the company's performance. The website, e-mail and social media offer new opportunities for the customer, who can communicate and interact with the company, and for the company, which can communicate with single customers to personalize their relationships.

Scholars agree on a few dimensions of relationship quality, which have been applied to the online environment in several studies. Trust, satisfaction and commitment are the most considered (Gruen, 1995; Bauer *et al.*, 2002): trust is the confidence that one party demonstrates in the other party's reliability and integrity (Morgan, Hunt, 1994; McKinght *et al.*, 2002; Bart *et al.*, 2005; Urban *et al.*, 2009), satisfaction, the result of the comparison between expectations and perceptions (Oliver, 1980, 1993; Zeithaml *et al.*, 1985; Liu, Arnett, 2000), commitment is an enduring desire to maintain a valued relationship with the other party (Morgan, Hunt, 1994). Other authors also consider involvement to be a dimension that influences customer satisfaction and, consequently, customer loyalty (Oliver, 1999; Sanchez-Franco, 2009) and personalization (Miceli *et al.*, 2007; Montgomery, Sminth, 2009).

Kotler (1999) identifies five levels of customer relationship (basic, reactive, accountable, proactive and partnership) but focusing on the transaction rather than on relationships that occur before the customer purchase decision. These dimensions are applied to the hospitality industry by Essawy (2005) and Bai, Hu and Jang (2006) with a relational orientation.

Another stream of research is more focused on the evaluation of website quality to determine the extent to which it can create long-term customer relationships. In this case, the dimensions considered are: information quality, quality of information on the website and their level of detail (Liu, Arnett, 2000; Liang, Chen, 2009), system quality, design and functionality of the website (McCarthy, 2003; Fang, Sawendy, 2003; Yang *et al.*, 2005; Fang, Tsai, 2010) and assurance and empathy, offering personalized services (Srinivasan *et al.*, 2002; Ansari, Mela, 2003, Miceli *et al.*, 2007).

## **2.2. Relational orientation in communication studies**

Corporate communication studies apply the principles underlying the perspectives of stakeholder relationship management (Ledingham, Bruning, 2000; Bruning, Galloway, 2003) and dialogue orientation (Kent *et al.*, 2003) to websites and social networks to determine the dimensions of a company's online relationship orientation.

Building and developing positive relationships between the organization and relevant publics can in fact contribute to increasing the effectiveness of organizational action (Bruning, Ledingham, 1999; Bruning, Galloway, 2003; Huang, 2001). In the mean time, an effective management of the relationships allows the organization to improve its ability to balance the interests of the company and those of the stakeholders, earn their trust and support, foresee and resolve potentially conflictual situations (Grunig et al., 1995; Huang, 1999, 2001).

A stakeholder relationship is defined as the connection between the company and its key publics, which can bring economic, political, social and cultural advantages to those involved and is marked by reciprocal positive consideration (Bruning, Ledingham, 1999).

The relationship dimensions identified are: commitment, or the level of willingness to maintain a link with the other party (Hon, Grunig, 1999; Ledingham, Bruning, 1998; Stafford, Canary, 1991); controlled reciprocity, or the degree of power and control exerted on the other party (Ferguson, 1984; Hon, Grunig, 1999; Stafford, Canary, 1991); the trust that each participant develops in the other (Grunig et al., 1992; Hon, Grunig, 1999; Ledingham, Bruning, 1998) and the degree of satisfaction expressed singularly by the parties involved in the relationship and which is strictly connected to the ability of each one to meet the other's expectations (Grunig et al., 1992; Hon, Grunig, 1999; Huang, 2001).

Ledingham and Bruning (1998) have identified three additional dimensions of the relationships between organizations and publics: the degree of openness to others; the support expressed by each participant and the amount of resources involved in a relationship. Hon and Grunig (1999) also distinguish between exchange relationships, where actions are carried out according to the benefits that have been or could be obtained, and communal relationships, where the actions of the parties involved are carried out with no expectation of receiving anything in return.

An additional stream of research in the field of stakeholder relationship management focuses on identifying useful strategies for initiating and fostering symmetrical relationships (Hon, Grunig, 1999). Based on the studies carried out in the field of interpersonal communication (Stafford, Canary, 1991), the relationship strategies most commonly analyzed by public relations literature are the following (Hon, Grunig, 1999, Grunig, Huang, 2000): the possibility to access tools and contents; improving the relationship experience; openness to discussion; legitimization of the interests of the parties involved; building networks and relationships; sharing duties and problematic situations.

Corporate communication studies contribute to enriching the study of the dimensions that constitute the relationships and provide additional ideas about the most effective relationship strategies in online environments.

Ki and Hon (2006) define the characteristics that websites must possess to be relational. Among these are positivity, identified by the presence of support tools for easy navigation; a site map; a search engine. The website implements a strategy of openness at the moment it makes information about the company as a whole available; press releases; annual reports. The presence of contact information for the organization is an indicator of an access strategy. Company social responsibility initiatives which may include the environment, community and specific groups of stakeholders are indicators of the shared tasks strategy. Finally, the presence on the website of elements that indicate a relationship between the organization and public activists is a sign of networking.

Similarly, Cho and Huh (2010) draw on the approach suggested by Ki and Hon (2006), examining the potential of the blog in terms of its contribution to the development and management of relationships between the organization and publics.



A further contribution to the analysis of online relationship orientation comes from the dialogic public relations theory (Kent, Taylor, 1998). The dialogue is conceived as a conceptual evolution of symmetrical communication as it is based on two-way communication and relational interaction (Kent, Taylor, 1998). Unlike the symmetrical communication which represents the process by which the organization and its publics communicate interactively, however, dialogue is considered a product, the output of a particular type of relationship and communication (Kent, Taylor, 1998; 2002).

Many empirical studies have focused on the application of dialogic principles and strategies to websites (Kent et al., 2003; Ingenhoff, Koelling, 2009, 2010; Park, Reber, 2008), to Facebook (Bortree, Seltzer, 2009; Sweetzer, Lariscy, 2008), to blogs (Seltzer, Mitrook, 2007) and to Twitter (Ribalko, Seltzer, 2010).

In particular, there are five dialogic principles that are applicable to website management (Taylor et al., 2001; Kent et al., 2003; Ingenhoff, Koelling, 2009, 2010; Park, Reber, 2008).

The principle of the ease of the interface is based on the assumption that each visitor must be able to explore the internet site and select information simply and quickly (Taylor et al., 2001). In this case, the indicators that facilitate its implementation consist of the presence within the site of a navigation map and/or a search engine, the publication on the home page of clear links that connect to pages within the site, the use of a graphics system that does not slow navigation (Taylor et al., 2001; Park, Reber, 2008).

The principle of the usefulness of information concerns the ability of the company to identify different publics and provide appropriate and interesting information for the various subjects identified (Taylor et al., 2001). In this case, the indicators vary depending on the group of stakeholders the communication is intended for, among which the most relevant are: the media, clients, investors and internal publics (Kent, Taylor, 1998; Taylor et al., 2001; Park, Reber, 2008).

The indicators of information usefulness can therefore vary from the presence on the website of information concerning press releases, to official statements from the company, to graphs summarizing the organizational activities and results obtained, to changes or clarifications regarding the organizational structure and its members (Taylor et al., 2001; Park, Reber, 2008).

The principle of the generation of return visits concerns the ability of the website to stimulate the loyalty of online users (Kent, Taylor, 1998). The return of users may be favored by the presence of precise characteristics that increase the attractiveness of the website, such as forums, comments, question/answer sections, explicit invitations to repeat the navigation (Kent, Taylor, 1998; Taylor et al., 2001; Park, Reber, 2008). The quick availability of updated information and the presence of links to other websites are indicators of the principle of visitor conservation, according to which the organizations try to prolong the length of their visits to the website (Taylor et al., 2001). Finally, the strategy of dialogic loop creation is measured by the presence of structural characteristics that allow and favor interactivity such as the publication of company contact information on the website and the opportunity to express opinions and receive quick responses from members of the organization (Kent, Taylor, 1998; Taylor et al., 2001; Park, Reber, 2008).

### **3. RESEARCH METHODOLOGY AND HYPOTHESES**

In light of literary reviews on relationship marketing and communication studies, the following research hypotheses are assumed.

*H1: Milan hotel company websites are used to provide information about the service rather than to establish long-term relationships with customers through dialogue.*

A study of Scottish hotel companies revealed that websites of small hotels are used mainly as “electronic brochures” rather than dynamic and interactive relationship marketing tools (Morrison *et al.*, 1999). A similar study in the UK found that the websites of larger and more visible companies were generally significantly richer, more advanced and used more as a relational tools (Essawy, 2005). Other scholars confirm the relationship between a company’s dimensions and its development of online relationship orientation (Arnott, Bridgewater, 2002; Sigala, 2001; Gilbert *et al.*, 2002; Bai *et al.*, 2006). Therefore, it could be interesting to verify whether this holds true in the Italian hospitality industry as well.

*H2: Larger Italian hotel companies (number of rooms) have higher online relationship orientations*

Other studies try to demonstrate the relationship between a company’s quality level and its online relationship orientation, but with conflicting results. Sigala (2001) and Schegg *et al.* (2002) confirm this relationship, while Essawy (2005) finds that mainly budget hotels consider relationship dimensions. Also in this case, it seems interesting to test this hypothesis in the Italian industry.

*H3: Italian hotel companies with higher levels of quality (star ratings) have higher online relationship orientations*

#### *Evaluation model and analysis chart*

The research will begin with an evaluation model of the relationship and dialogue orientation of hospitality companies on the Web. With this aim, already consolidated models of on-line marketing studies will be integrated with those taken from corporate communication literature. The evaluation model will be adapted to the specificities of the Italian hospitality sector and to the theories concerning common customer behaviour when they interact with hotels through the Web. The eighty items identified were grouped in six macro dimensions: accessibility, ease of interface, usefulness of information, usefulness of service, generation of return visits, dialogic loop.

Dimensions used to measure a website’s online relationship orientation can contribute to dialogic relationships in different ways (Taylor *et al.*, 2001; Ingenhoff, Koelling, 2010). Communication studies identify two clusters: a design and technical cluster, which includes dimensions considered essential for the activation and development of dialogic relations; and a dialogic cluster, which includes the dimensions that stimulate continuous dialogue and relationships (Taylor *et al.*, 2001; Ingenhoff, Koelling, 2010).

The evaluation model considers the following dimensions: accessibility, ease of interface, usefulness of information and usefulness of service as part of the design and technical cluster and generation of return visits and dialogic loop as part of the dialogic cluster.

#### *Sample and variables of analysis*

The sample consists of 3-5 star hotels in the city of Milan. This choice was influenced by the dynamics of competition and development trends in Italy’s hospitality industry. The Italian hotel supply is mainly composed of small and medium-sized companies, generally family-run. Despite the growth of international hotel chains, only 6% of hotels in Italy belong to this category (Federalberghi, 2010). However, this trend is growing and hotels belonging to

international chains are developing, especially in large main cities, not to mention NH Hoteles' recent acquisition of Italian hotel chains Jolly Hotels and Framon. Milan is one of the cities most affected by this trend; in fact, in 2011 alone, three new hotels belonging to international chains are scheduled to open (Armani Hotels & Resorts/Rezidor, Mandarin Oriental, W brand of Starwood).

Another trend concerns the rising level of quality of Italian hotels: 1 and 2-stars hotels are decreasing and 3-4-5-stars hotels are increasing. Although 32% of Italian hotels already belong to the low quality category, companies with medium-high quality will be forced to compete with International hotel chains in the future. One way could be the development of product differentiation strategies (servicescape, services and relationships) even using new technologies, which are particularly convenient for small and medium-sized single-unit companies with limited budgets.

The sample was chosen by consulting the database of the Italian Tourism Ministry and selecting the hotels in the city of Milan. Of this group, 3-4-5-stars hotels were chosen, except those without a website or belonging to a hotel chain. In fact, hotel chains generally have a single website for all their hotels, concentrating the communication strategies of different companies.

As a result of this first step, 156 hotels were selected for the study, considering the following variables: quality level (star rating) and size (number of rooms). The hotels were then grouped into three dimensional clusters considering mean and quartile: small hotels (1-45 rooms); medium-sized hotels (46-69 rooms); large hotels (more than 70 rooms).

#### *Website analysis*

The evaluation of the relationship and dialogue orientation of Italian hotels on the Web verifies the presence (1) or the absence (0) of each dimension of the model through the analysis of the interaction and participation of companies on the Web (websites, social networks, etc.). The comparison between the evaluation results and the sample variables make it possible to determine the factors that generate the relationship and dialogue orientation of hospitality companies in Italy and their relationship to the size and quality level.

#### *Sample profile*

The sample represents 62.4% of the hotels and 43.6% of the rooms of the city of Milan with a prevalence of the 3-star category: 60.9% of the hotels (sample) as opposed to 48.8% (Milan) and 43.3% of rooms (sample) as opposed to 27.9% (Milan). Moreover, by considering only the categories from 3 to 5 stars, the average number of rooms per hotel is lower: sample 61.5 and Milan 88. These results depend on the rules used to select the sample: the exclusion of hotel chains that are generally of greater dimensions and higher quality (Federalberghi, 2011).

**Table 1 - Sample features: number of hotels and rooms according to the level of quality**

stars	HOTELS					ROOMS				
	sample	% sample	Milan	% Milan	% sample/ Milano	sample	% sample	Milan	% Milan	% sample/ Milano
5	4	2.6%	14	5.6%	28.6%	297	3.1%	2.462	11.2%	12.1%
4	57	36.5%	114	45.6%	50.0%	5.144	53.6%	13.421	60.9%	38.3%
3	95	60.9%	122	48.8%	77.9%	4.160	43.3%	6.145	27.9%	67.7%
<b>total</b>	156	100.0%	250	100.0%	62.4%	9.601	100.0%	22.028	100.0%	43.6%

**Table 2 - Sample features: dimensional clusters and quality level**

stars	SMALL			MEDIUM			LARGE			TOTAL	
	absolute value	% small	% small/category	absolute value	% medium	% medium/category	absolute value	% large	% large/category	absolute value	%
5	0	0.0%	0,0%	2	4.7%	50.0%	2	4.5%	50.0%	4	2.6%
4	9	13.0%	15,8%	20	46.5%	35.1%	28	63.6%	49.1%	57	36.5%
3	60	87.0%	63,2%	21	48.8%	22.1%	14	31.8%	14.7%	95	60.9%
total	69	100,0%	44,2%	43	100,0%	27,6%	44	100,0%	28,2%	156	100,0%

44.2% of the companies are small in size and 87% are 3-star hotels. The rest of the sample presents a fair balance of medium-sized and large hotels. The increase in hotel size is positive compared to the quality level: medium-sized hotels are fairly concentrated in 3-star and 4-star companies, while, as predictable, larger hotels mainly belong to the 4-star category (63.6%). The data were processed using SPSS and the results of the study are analyzed and the hypotheses confirmed in the next paragraph.

#### **4. RESULTS**

The first hypothesis (**H1**) claims that Milan hotel companies use their websites mainly to provide information about the service rather than to create long-term relationships with customers through dialogue.

Tables 3 and 4 show that the value of the design and technical cluster (M: 49.3%; SD: 11.7%) is higher than that of the dialogic cluster (M: 22.6%, SD: 0.83%). Therefore, the first hypothesis is supported.

The hotel websites analyzed present quite a high value in terms of *accessibility* (M: 94.4%; SD: 12.46%). Almost all the hotels guarantee a working homepage (100%) and other internal web pages (83.3%).

A medium score is assigned to *ease of interface* (M: 42,3%; SD: 11,77%) and *usefulness of information* (M: 42,1%; SD: 11,50%).

In terms of the first dimension, 92% of the websites analyzed are well-organized and structured; the presence of multimedia features does not influence the ease of interface (83.3%). Information directed to the customer is visible and properly highlighted on the website (99.4%). However, the other stakeholders are less taken into account: investors (2.6%), the media (11.5%), staff (7.7%) and business operators (21.9%).

In terms of *usefulness of information* most hotel companies give information about the quality level (95.5%), location (96.2%), privacy conditions (81.9%) and directions to the hotel (75.6%).

Moreover, pictures of rooms (82.7%) and other public areas of the hotel (78.9%) are generally published. However, less attention is given to the number of rooms (69.2%), the description of room amenities (30.1%) and pricing policies (41%). A small part of the sample provides corporate information in terms of board and management composition (3.2%), and other corporate activities and operations, for example an annual report (1.9%) and financial information (2.6%).

**Table 3 – Design and technical cluster for the creation of dialogic relationships between hotel companies and stakeholders**

<b>Dimension/indicators</b>	<b>% of hotels (tot. 156)</b>
<b>DESIGN AND TECHNICAL CLUSTER</b>	<b>M: 49.3 SD: 11.7</b>
<b>ACCESSIBILITY</b>	<b>M: 94.4 SD: 12.46</b>
<i>Ease of finding the site using search engines (Google)</i>	<b>100</b>
<i>Access to the homepage and operation of the site</i>	<b>100</b>
<i>Access and operation of the single pages</i>	<b>83.3</b>
<b>EASE OF NAVIGATION</b>	<b>M: 42.3 SD: 11.77</b>
<i>Hierarchical organization and clearly arranged contents</i>	<b>92.9</b>
<i>Presence of multimedia elements</i>	<b>83.3</b>
<i>Presence of sitemap</i>	<b>12.2</b>
<i>Presence of a search engine within the site</i>	<b>3.2</b>
<i>Presence of internal links</i>	<b>84</b>
<i>Presence of external links not strictly related to the product</i>	<b>35.9</b>
<i>Ease of finding detailed information for consumers</i>	<b>99.4</b>
<i>Ease of finding detailed information for the media</i>	<b>11.5</b>
<i>Ease of finding detailed information for investors</i>	<b>2.6</b>
<i>Ease of finding detailed information for personnel</i>	<b>7.7</b>
<i>Ease of finding detailed information for operators</i>	<b>21.9</b>
<i>Option of selecting a language and country of origin</i>	<b>95.5</b>
<b>USEFULNESS OF INFORMATION</b>	<b>M: 42.1 SD: 11.50</b>
<i>Description of the company history</i>	<b>6.4</b>
<i>Information on administration, management and investors</i>	<b>3.2</b>
<i>Information regarding the number of rooms</i>	<b>69.2</b>
<i>Information on development projects for the facility</i>	<b>1.9</b>
<i>Information on the level of quality of the hotel</i>	<b>95.5</b>
<i>Information on the location</i>	<b>96.2</b>
<i>Map to the facility available</i>	<b>46.2</b>
<i>Presence of an external link to a map to the facility</i>	<b>64.1</b>
<i>Information on transportation to the hotel</i>	<b>75.6</b>
<i>Presence of awards and certificates</i>	<b>14.1</b>
<i>Information on Corporate Social Responsibility</i>	<b>6.4</b>
<i>Publication of business balance sheet/ annual report</i>	<b>1.9</b>
<i>Availability of financial information</i>	<b>2.6</b>
<i>Description of the various kinds of rooms available</i>	<b>30.1</b>
<i>Presence of room pictures</i>	<b>82.7</b>
<i>Presence of pictures of other areas of the hotel</i>	<b>78.8</b>
<i>Virtual tour available</i>	<b>21.8</b>
<i>Price information</i>	<b>41</b>
<i>Information regarding the city/region/country</i>	<b>34.6</b>
<i>Presence of external links to sites with more information on the city/region/nation</i>	<b>9</b>
<i>External links to company websites that offer services correlated to the product</i>	<b>37.2</b>
<i>Conditions of privacy</i>	<b>81.4</b>
<i>Information on web authentication systems, anti-spam and anti-phishing</i>	<b>68.6</b>
<b>USEFULNESS OF SERVICE</b>	<b>M: 56 SD: 24.71</b>
<i>Possibility to verify room availability</i>	<b>86.5</b>
<i>Possibility to choose room type</i>	<b>84.6</b>
<i>Possibility to select additional services</i>	<b>34</b>
<i>Price display</i>	<b>82.7</b>
<i>Possibility for instant reservation confirmation</i>	<b>80.1</b>
<i>Possibility of payment by credit card or other systems</i>	<b>46.2</b>
<i>Possibility to check the status of the reservation</i>	<b>11.5</b>
<i>Possibility to change/cancel the reservation</i>	<b>67.9</b>
<i>List of special offers</i>	<b>71.2</b>
<i>Package deals</i>	<b>3.8</b>
<i>Event notification</i>	<b>48.1</b>

The *usefulness of service* dimension reaches above-average scores (M: 53.9%; SD: 25.9%). The most hotels give customers the possibility to verify room availability (86.5%), choose the kind of room (84.6%) and special offers (71.2%), and finally real-time booking (80.1%). A smaller group has functions that allow customers to manage their reservation (11.5%), including changing or canceling it (67.9%). 46.2% of hotels give the option of paying online and 34% to choose integrative and supporting services.

The dialogic cluster presents lower scores: the *dialogic loop* dimension is higher (M:27.4%; SD: 0.73%) compared to the *generation of return visits* dimension (M:12.4%; SD:0.97%).

Company contact information is published on the website to foster dialogic loops: address (100%), telephone number (98.7%), e-mail (94.9%), fax (97.4%). However, relationship and dialogic potential is unexploited because of a lack of interactive use of instruments like online forums (2.6%) or guestbooks (4.5%). 11.5% of companies give customers the possibility to evaluate service quality on the website. Nevertheless, none of the companies encourage customer complaints. Finally, although 45.5% of hotels provide customer care contact information, only 1.3% guarantee non-stop customer service.

**Table4 - Dialogic cluster dimensions for the creation of dialogic relationships between hotel companies and stakeholders**

Dimension/indicators	% of hotels (tot. 156)
<b>DIALOGIC CLUSTER</b>	<b>M: 22.6 SD: 0.83</b>
<b>GENERATION OF RETURN VISITS</b>	<b>M: 13.8 SD: 12.28</b>
FAQ Pages	12.2
Access to reserved area with username and password	44.9
Differentiated structure of the reserved area for members	49.4
Possibility to subscribe to the newsletter	26.9
Possibility to download the brochure	7.7
Customer photo gallery	0
Hotel page connected to social networks	19.9
Hotel page connected to Youtube	4.5
Possibility to engage in viral marketing	5.8
Possibility to download smartphone applications	0.6
Possibility to visualize and download the Hotel Booking Widget	0
Possibility to add the site to favorites	7.7
Possibility to participate in online competitions	0
<b>DIALOGIC LOOPS</b>	<b>M: 27.4 SD: 0.73</b>
Customer service contact information	45.5
Limited hours of assistance	0.6
24-hour assistance	1.3
Chat assistance	0
Link to hotel review sites	23.7
Possibility to express an opinion on quality	11.5
Possibility to make a complaint	0
Information on the handling of complaints	0
Presence of loyalty programs	5.1
Link to hotel forums and blogs	2.6
Presence of forums within the site	2.6
Presence of a chat	0
Presence of a guestbook	4.5
Hotel address	100
Telephone number with a toll	98.7
Toll-free telephone number	3.8
Skype contact	28.8
E-mail address	94.9
Fax number	97.4

As for the intent to maintain customers and generate return visits to the website, only 44.9% of companies have an area reserved for customers. We can see that features capable of generating customer loyalty are frequently unexploited: FAQ (12.2%), newsletter subscription (26.9%), social network connections (19.9%), Youtube connection (4.5%), like (7.7%) or share functions (4.5%).

The second hypothesis (H2) claims there is a positive correlation between online relationship orientation and hotel dimension (number of rooms). The technical and dialogic clusters were connected to dimensions by means of Spearman correlation. The results in table 5 show a positive ( $r_s = 0.379$ ) and significant ( $p < 0.001$ ) correlation between the technical cluster and hotel dimensions. The correlation between the dialogue cluster and hotel dimensions is also positive ( $r_s = 0.151$ ), although its significance is lower ( $p < 0.1$ ). The single dimensions in each cluster are positively correlated to one other considering the hotel dimension variable. Nevertheless, the correlation between hotel dimension and accessibility and dialogic loops is not significant ( $p > 0.1$ ).

Therefore, hypothesis two (H2) is supported only for the following dimensions: ease of interface, usefulness of information, usefulness of service and generation of return visits.

**Table 5 – Correlation between dialogic orientation and company dimensions**

Cluster/Dimensions	$r_s$	Sig.
<b>Design and technical cluster</b>	0.379	0.000
Accessibility	0.075	0.353
Ease of navigation	0.274	0.001
Usefulness of information	0.290	0.000
Usefulness of service	0.373	0.000
<b>Dialogic cluster</b>	0.151	0.059
Generation of return visits	0.141	0.080
Dialogic loops	0.116	0.149

The third hypothesis (H3) claims that there is a positive relationship between online relationship and dialogic orientation and the quality level of the company in the Italian hospitality industry (star rating). In this case too, the correlation is confirmed using Spearman correlation. Table 4 shows positive and significant correlations between the technical cluster ( $r_s = 0.350$ ;  $p < 0.001$ ), the dialogic cluster ( $r_s = 0.221$ ;  $p < 0.05$ ) and the quality level of hotel companies.

However, the accessibility and generation of return visits dimensions are not significantly correlated to the quality level of the hotel.

Therefore, the hypothesis is supported for the dimensions of ease of interface, information quality, service quality and dialogic loops.

**Table 6 – Correlation between dialogic orientation and hotel quality level**

Cluster/Dimensions	$r_s$	Sig.
<b>Design and technical cluster</b>	0,350	0,000
Accessibility	- 0,033	0,683
Ease of navigation	0,274	0,001
Usefulness of information	0,332	0,000
Usefulness of service	0,283	0,000
<b>Dialogic cluster</b>	0,221	0,006
Generation of return visits	0,093	0,248
Dialogic loops	0,293	0,000

## **5. DISCUSSION**

The results obtained through the analysis of the websites of the Milan hotels support the first hypothesis of the study, the one that attests to their mainly informative purpose, to the detriment of the dialogic one. We feel it is appropriate to underline the three most significant of these results.

The first concerns the nearly complete lack of information about the hotel structure as an entrepreneurial subject, thus regarding its management, personnel and any certifications obtained. In particular, the websites appear dedicated to providing information to an exclusive group of stakeholders, that is, potential customers; completely overlooking national and international offline and online newspapers, and even trade magazines; as well as current and potential employees and the area of reference. Very few the hotels that openly publish information regarding their financial situation, the members of their Board of Directors, or their activities in terms of Corporate Social Responsibility.

The second reason of interest of the results concerns the nearly total lack of connection to the local reality. The lack of exploitation of the attractions in the area the hotel facility is located, as well as the lack of services for navigating the local transportation network to visit the neighboring areas. The amount of information about companies offering products related to the hotel services - for example museums, theaters, restaurants, event and excursion organizers, etc - is also quite scant. This aspect is also confirmed by the limited presence of hotels that offer integrated service packages, usually made up of internal services and services related to the area (entrance to exhibits, concerts, excursions, special transport conditions, etc).

The third reason concerns the scarcity of detailed information about the services offered by the hotel and reservations management. In particular, few hotels allow online booking with payment by credit card, offer the possibility to embark on a virtual tour of the facility and check the status of one's reservation. As far as online sales are concerned, a credit card is usually required as a guarantee of the reservation but payment occurs predominantly on the premises. The absence of the possibility for the customer to dynamically manage his or her reservation is also tied to the prevalent absence of an area reserved for users. In terms of the limited description of the differences between the rooms in terms of services offered, we are particularly referring to the lack, on the one hand, of a detailed description of the room's amenities (text and pictures) and, on the other hand, to the ability to choose additional services (dining, meeting rooms, wellness services, etc.). Even in this case, one discovers a connection to the scant supply of integrated packages made up of various services within the facility. As for the rates, the price of the room is clearly indicated when checking its availability and booking but the rate information and conditions are often missing or incomplete (best available rate, parity rate, restrictions, special offer periods, etc.).

Having confirmed the prevalently informational function of the websites, it is clear how an orientation to dialogue is practically inexistent. Very few facilities consider social media and social networks, for example by offering a Skype contact, setting up a Facebook page or uploading a video to Youtube. Even fewer hotels offer links to forums, chats or communities, even those dedicated to the hospitality sector. Nevertheless, the most striking fact is the lack of a clear, organized way of handling complaints, for example by offering customers the possibility to submit complaints on the website or to express their opinions about the quality of the services online. In particular, the invitation to customers to express any elements of dissatisfaction is practically non-existent. The hotels limit themselves to clearly indicating their contact information (address, telephone number, e-mail, fax) but do not develop tools dedicated to handling complaints (complaint forms to fill out online, a special e-mail address, etc.); only in a few cases are there guestbooks that gather consumer comments while the



online tools related to the website for customer feedback appear little used. Although the hotel's contact information is clearly indicated, the possibility for 24-hour assistance is guaranteed in only 0.6% of cases. Moreover, only 5% of cases offer a customer loyalty program, meaning any type of club or preferential channel that makes it possible to reward the customer through personalized and exclusive services.

The second research hypothesis has been partially confirmed, as the ease of navigation, the usefulness of the information, the usefulness of the services and the generation of return visits are linked to the dimensions of the hotel. Having a greater number of rooms, usually accompanied in the hotel sector by a more complex organizational structure and by a greater specialization of the functions, partially justifies a greater attention to providing information about the facility, rooms and services offered. Similarly, the larger hotels demonstrate greater attention to generating return visits, for example by personalizing the customers' navigation path, creating reserved areas accessible with a password, or distributing a periodical newsletter.

The third research hypothesis is also partially supported, as the higher quality hotels prove to have sites that offer greater ease of navigation, information usefulness and inclination towards creating dialogic loops. The positive correlation between hotel structure quality and the activation of dialogic loops is the result that most merits comment. Hotels with more stars are, in fact, more inclined to make the ways visitors to the site can contact the facility visible and provide links to hotel review sites.

It is also interesting to note that the data can be interpreted in light of the precise choice of the sample analyzed, which focuses on the hotels in the city of Milan, both a business and tourist destination currently experiencing a boom, also due to the prospects of the upcoming Expo 2015. In anticipation of future competition due to the entrance of an ever-increasing number of competitors linked to national and international hotel chains, and to an increase in the international business tourist movement coming in, it is important to invest in the improvement of informational-transactional contents and in the development of an online relationship orientation also capable of creating a lasting relationship with the clientele.

The choice of the sample, which gave a geographic concentration of the analysis, represents the main limit of the study, which is in the pilot stage and needs to be extended to a nationally representative sample considering the specifics of the tourist destinations present on Italian territory.

Extending the study to a sample representative of Italian hotel facilities, even those not belonging to large hotel groups, is one of the next steps of the study. Another interesting step of the study could also focus on investigating the relationship that exists between online dialogic and relationship orientation and the performance indicators of the hotel companies.

## **6. CONCLUSIONS**

This study bridges the knowledge gap in terms of online relationship and dialogic strategies of the hotel facilities not belonging to national or international hotel chains. Based on the contributions of the literature on relational marketing, stakeholder relationship management and dialogic public relations, this work puts forth a model of evaluation of online relationship and dialogic orientation suited to the specificities of the Italian hotel industry. The model was tested on a representative sample of the hotel facilities located in the Milan area.

The results of the study confirm that the websites of the Milanese hotel facilities have a mainly informational function, which is at times quite poor for company stakeholders other

than customers but who are just as strategically important, such as the media, the local community and potential employees. Detailed information meant to satisfy the informational needs of perspective customers is just as poor, like the possibility to check the status of one's reservation or carried out online transactions. However, one of the most significant results concerns the extremely poor attention to the creation of synergies with the area both in order to provide additional services for the clientele (for example, information regarding the most important attractions in the area) and to create a network of companies that offer related products.

The larger hotels pay more attention to generating return visits to the website, while those of the highest quality are more focused on creating dialogic loops.

From the point of view of managerial implications, the study made it possible to develop a diagnostic tool that can be immediately applied to companies and that can offer the basis for an analysis of the strengths and weaknesses of websites, as well as the potential for growth from a relational and dialogic standpoint on the web. In particular, the results can support small and medium-sized companies with medium-low quality (1-3 stars), which account for over 80% of Italian hotels, offering the most suitable guidelines for development, even considering possible forms of aggregation.

## **REFERENCES**

- Ansari, A., Mela, C.F. (2003). Ansari, E-customization. *Journal of Marketing Research*, 40, 131–145.
- Arnott, D. C., Bridgewater, S. (2002). Internet, interaction and implications for marketing. *Marketing Intelligence & Planning*, 20 (2), 86-95.
- Bai, B., Hu, C., Jang, S. (2006). Examining E-Relationship Marketing Features on Hotel Websites. *Journal of Travel & Tourism Marketing*. 21 (2/3), 33-48.
- Bart, Y., Shankar, V., Sultan, F., Urban, G.L. (2005). Are the Drivers and Role of Online Trust the Same for All Web Sites and Consumers? A Large-Scale Exploratory Empirical Study. *Journal of Marketing*, 69, 133–152.
- Bateson, J.E.G., Hoffman, K.D. (2000). *Gestire il marketing dei servizi*. Milano: Apogeo.
- Bauer, H. H., Grether, M., Leach, M. 2002. *Building customer relations over the Internet*. *Industrial Marketing Management*, 31, 155– 163.
- Berry, L.L. (2002). Relationship Marketing of Services-Perspectives from 1983 and 2000, *Journal of Relationship Marketing*, 1 (1), 59-77.
- Berry, L. L. (1995). Relationship marketing of services-growing interest, emerging perspectives. *Journal of the Academy of Marketing Science*, 23 (4), 236-245.
- Bortree, D.S., Seltzer, T. (2009). Dialogic strategies and outcomes: an analysis of environmental advocacy groups' Facebook Profiles. *Public Relations Review*, 35 (3), 317-319.
- Bruning, S. D., Ledingham, J. A. (1999). Relationships between organizations and publics: Development of a multi-dimensional organization-public relationship scale. *Public Relations Review*, 25(2), 157–170.
- Bruning, S. D., Galloway, T. (2003). Expanding the organization-public relationship scale: Exploring the role that structural and personal commitment play in organization-public relationships. *Public Relations Review*, 29, 309-319.
- Christopher, M., Payne, A., Ballantyne, D. (1991). *Relationship Marketing*. London: Heinemann.

- Cho, S., Huh, J. (2010). Content analysis of corporate blogs as a relationship management tool. *Corporate Communication: an International Journal*, 15 (1), 30-48.
- Costabile, M. (2001). *Il capitale relazionale: gestione delle relazioni e della customer loyalty*. Milano: McGraw-Hill.
- Eiglier, P., Langeard, E. (2000). *Il marketing strategico nei servizi*. Milano: McGraw-Hill.
- Essawy, M. (2005). Exploring the presence and exploitation of e-relationship marketing by UK based multi-unit hotel brands. *Information and Communication Technologies in Tourism*, 11, 338-349.
- Fang, S., Tsai, M., (2010). Factors driving website success – the key role of Internet customisation and the influence of website design quality and Internet marketing strategy. *Total Quality Management* 21 (11), 1141–1159.
- Ferguson, M. A. (1984). Building theory in public relations: Interorganizational relationships. Paper presented to the Association for Education in Journalism and Mass Communication, Gainesville, FL.
- Gan, L., Sim, C.J., Tan, H.L., Tan, J. (2006). Online Relationship by Singapore Hotel Websites. *Journal of Travel & Tourism Marketing*, 20 (3/4), 1-19.
- Gilbert, D., Powell-Perry, J. (2002). Exploring developments in web based relationship marketing within the hotel industry. *Journal of Hospitality & Leisure Marketing*, 9 (3/4), 141-159.
- Grönroos, C. (1994). From marketing mix to relationship marketing towards a paradigm shift in marketing. *Management Decision*, 32 (2), 4-20.
- Grönroos, C. (1996). The value concept and relationship marketing. *European Journal of Marketing*, 30 (2), 19-30.
- Grönroos, C. (1999). Relationship Marketing: Challenges for the Organization. *Journal of Business Research*, 46, 327-335.
- Grönroos, C. (2000). Creating a Relationship Dialogue: Communication, Interaction and Value. *The Marketing Review.*, 1, 5-14.
- Grönroos, C. 2000. *Service management and marketing. A customer relationship management approach*, Chichester: John Wiley & Sons.
- Gruen, T.W. (1995). The outcome of relationship marketing in consumer markets. *International Business Review*, 4 (4), 447-69.
- Grunig, L.A., Grunig, J.E. Dozier, L.M. (1992). *Excellent Public Relations and Effective Organizations: A Study of Communication Management in Three Countries*. Hillsdale, NJ: Erlbaum.
- Grunig, J. E., Grunig, L. A., Dozier, D. M. (1995). *Combining the two-way symmetrical and asymmetrical models into a contingency model of excellent public relations*. Paper presented to the Association for the Advancement of Policy, Research and Development, Las Vegas, November 19-22, 29 pp.
- Grunig, J. E., Huang, Y. (2000). From organization effectiveness to relationship indicators: Antecedents of relationships, public relations strategies, and relationship outcomes. In Ledingham, J. A., Bruning, S.D.(Eds.), *Public relations as relationship management: A relational approach to the study and practice of public relations* (pp. 23–53). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Gummesson, E. (2002). Relationship Marketing in the New Economy. *Journal of Relationship Marketing*, 1 (1), 37-57.
- Gummesson, E. (2004). Return on relationships (ROR): the value of relationship marketing and CRM in business-to-business contexts. *Journal of Business & Industrial Marketing*, 19 (2), 136 – 148.

- Gummesson, E. 2006. *Total Relationship Marketing*. Third-edition. Butterworth-Heinemann. London.
- Hakansson, H., Ford, D. (2002). How should companies interact in business networks?. *Journal of Business Research*, 55, 133–139
- Heskett, J. L., Earl Sasser, W. Jr., Schlesinger L. A. (1997). *The Service Profit Chain*. New York: Free Press.
- Hon, L. C., Grunig, J. E. (1999). Guidelines for Measuring Relationships in Public Relations. Paper published in the Institute for Public Relations, retrieved on March, 2011, URL: [http://www.instituteforpr.org/wp-content/uploads/Guidelines\\_Measuring\\_Relationships.pdf](http://www.instituteforpr.org/wp-content/uploads/Guidelines_Measuring_Relationships.pdf)
- Huang, Y. (1999). *The effects of public relations strategies on conflict management*. Paper presented at the 49th annual conference of the International Communication Association, San Francisco.
- Huang, Y. H. (2001). OPRA: A cross-cultural, multiple-item scale for measuring organization-public relationships. *Journal of Public Relations Research*, 13, 61-90.
- Ingenhoff, D., Koelling, A.M. (2009). The potential of Web sites as a relationship building tool for charitable fundraising NPOs. *Public Relations Review*, 35 (1), 66-73.
- Ingenhoff, D., Koelling, A.M., (2010). Web Sites as a Dialogic Tool for Charitable Fundraising NPOs: A Comparative Study. *International Journal of Strategic Communication*. 4 (3), 171-188
- Jang, S., Hu, C., Bai, B. (2006). A canonical correlation analysis of e-relationship marketing and hotel financial performance. *Tourism and Hospitality Research*, 6 (4), 241-250.
- Kent, M. L., Taylor, M. (1998). Building a dialogic relationship through the WorldWideWeb. *Public Relations Review*, 24 (3), 321–340.
- Kent, M. L., Taylor, M. (2002). Toward a dialogic theory of public relations. *Public Relations Review*, 28 (1) 21–37.
- Kent, M. L., Taylor, M., White, W. J. (2003). The relationships between website design and organizational responsiveness to stakeholders. *Public Relations Review*, 29 (1) 63–77.
- Ki, E., Hon, L. (2006). “Relationship maintenance strategies on Fortune 500 company websites”. *Journal of Communication Management*, 10 (1), 27-43.
- Kotler, P., Bowen, J., Makens, J. (1999). *Marketing for hospitality and tourism*. Boston: Pearson.
- Ledingham, J. A., Bruning, S. D. (2000). *Relationship management: A relational approach to the study and practice of public relations*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Ledingham, J. A., Bruning, S. D. (1998). Relationship management in public relations: Dimensions of an organization-public relationship. *Public Relations Review*, 24, 55-65.
- Liang, C. J., Chen, H. J. (2009). A study of the impacts of website quality on customer relationship Performance. *Total Quality Management*, 20 (9), 971-988.
- Liu, C., Arnett, K.B., Chen, L.(2009). Exploring the factors associated with Web site success in the context of electronic commerce. *Information & Management*, 38, 23-33.
- Lovelock, C., Wright, L. (1999). *Principles of Service Marketing and Management*. Prentice Hall, Upper Saddle River, N.J.
- McKight, D.H., Choudhury, V., Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: a trust building model. *Journal of Strategic Information Systems*, 11, 297–323.
- Miceli, G.N., Ricotta, F., Costabile, M. (2007). Customizing Customization: a Conceptual Framework for Interactive Personalization. *Journal of Interactive Marketing*, 21 (2), 6-25.
- Montgomery, A.L., Smith, M.D. (2009). Prospects for Personalization on the Internet. *Journal of Interactive Marketing*, 23, 130–137.

- Morgan, R.M., Hunt, S.D. (1994), "The commitment – Trust Theory of Relationship Marketing", *Journal of Marketing*, vol. 58, July 1994, pp. 20-38.
- Morrison, A. M., Taylor, J. S., Morrison, A. J., Morrison, A. D. (1999). Marketing small hotels on the World Wide Web. *Information Technology & Tourism*, 2 (2), 97-113.
- Nielsen 2010. Global trends in online Shopping. URL (consulted August 2010): <http://hk.nielsen.com/documents/Q12010OnlineShoppingTrendsReport.pdf>.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decision. *Journal of Marketing Research*, 17, 460-9.
- Oliver, R. L. (1993). A conceptual model of service quality and service satisfaction: compatible goals, different concepts, in Swartz T.A., Bowen D.E., Brown S.W., *Advances in Services Marketing and Management: Research and Practice*, vol. 2, Greenwich, CT: , JAI Press.
- Palmer, A. (2002). The Evolution of an Idea: An Environmental Explanation of Relationship Marketing. *Journal of Relationship Marketing*, 1(1) 79-94.
- Palmer, A. (1998). *Principles of Services Marketing*. London: McGraw-Hill
- Park, H., Reber, B., (2008). Relationship building and the use of Websites: How Fortune 500 companies use their Websites to build relationships. *Public Relations Review*, 34, 409–411.
- Pellicelli, G. (1997). *Il marketing dei servizi*. Utet, Torino.
- PhoCusWright 2010. European Online Travel Overview. New York.
- Prahalad, C. K., Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, 18, 5–14.
- Reichheld, F.F. (1996). *The Loyalty Effect*. Boston: Harvard Business School Press.
- Rybalko, S., Seltzer, T. (2010). Dialogic Communication in 140 characters or less: How Fortune 500 companies engage stakeholders using Twitter. *Public Relations Review*, 36 (4), 336-341.
- Sanchez-Franco, M.J. (2009). The Moderating Effects of Involvement on the Relationships Between Satisfaction, Trust and Commitment in e-Banking. *Journal of Interactive Marketing*, 23, 247–258
- Schegg, R., Steiner, T., Frey, S., Murphy, J. (2002). Benchmarks of web design and marketing by Swiss Hotels. *Information Technology & Tourism*, 5, 73–89.
- Seltzer, T., Mitrook, M.A. (2007). The dialogic potential of weblogs in relationship building. *Public Relations Review*, 33 (2), 227-229.
- Sheth, J.N., Parvatiyar, A. (2002), "Evolving Relationship Marketing into a Discipline", *Journal of Relationship Marketing*, 1 (1), 3-16.
- Sigala, M. (2001). Modeling E-marketing Strategies: Internet Presence and Exploitation of Greek Hotels. *Journal of Travel & Tourism Management*, 11 (2/3), 83 – 103.
- Srinivasana, S. S., Anderson, R., Ponnawolu, K. (2002). Customer loyalty in e-commerce: an exploration of its antecedents and consequences. *Journal of Retailing*, 78 (1), 41-50.
- Stafford, L., Canary, D. J. (1991). Maintenance Strategies and Romantic Relationship Type, Gender and Relational Characteristics. *Journal of Social and Personal Relationships* 8 (2) 217-242.
- Sweetser, K. D., Lariscy, R. W. (2008). Candidates make good friends: An analysis of candidates' uses of Facebook. *International Journal of Strategic Communication*, 2, 175–198.
- Taylor, M., Kent, M. L., White, W. J. (2001). How activist organization are using the Internet to build relationships. *Public Relations Review*, 27(3), 263–284.
- Urban G.L., Amyx C., Lorenzon A. (2009). Online Trust: State of the Art, New Frontiers, and Research Potential. *Journal of Interactive Marketing*, 23, 179–190.

Zeithaml, V.A., Bitner, M.J., Gremler, D.D. (2006). *Services Marketing*. Boston: McGraw-Hill.

# **PEOPLE MANAGEMENT IN WELFARE SECTOR. AN EMPIRICAL INVESTIGATION ON JOB SATISFACTION AMONG PEOPLE-CARE WORKERS IN ITALY.**

**Daria Sarti**, University of Florence - Department of Business Administration, e-mail:  
daria.sarti@unifi.it

## *Abstract*

In people care, such as in many other service sectors, the output is difficult to measure and the quality of service is greatly dependent on highly skilled workers and on their level of engagement (Mosca *et al.*, 2007). Particularly for this sector, according to prior evidence, the individual performance (i.e. work engagement) is linked to intrinsic aspects of motivation (Leete, 2000) and relational aspects of the work (De Gieter *et al.*, 2008) but also extrinsic aspects of work satisfaction may be of relevance.

The paper focus on job satisfaction, in terms of extrinsic and intrinsic satisfaction (Lawler, 1973; Deci, 1975). Specifically, extrinsic rewards derive from factors associated with the job context; these include for example pay, working conditions and professional development. Intrinsic rewards refer to 'psychological enjoyment'; its items derive from factors inherent in the way in which the work is designed, that is the job content; for example, job variety and creativity and relational aspects of own job.

Job satisfaction represent a steam of research which is particularly important both in social sector (Mosca *et al.*, 2007; Mauno *et al.*, 2007) and for people care workers such as elderly care workers or teachers (De Gieter *et al.*, 2008; Simbula *et al.*, 2010) but a relative amount of prior research has been studying this aspect for this specific sector.

The aim of this paper is to shed light on the extrinsic and intrinsic aspect of job satisfaction for people-care workers. The paper starts from a literature review considering streams of research on job satisfaction in general and in welfare sector. In the empirical part, results of a statistical analysis are presented based on a sample of employees operating in people care sector in Italy.

The analysis investigates the different perception of extrinsic and intrinsic aspects of job satisfaction that people care workers have considering different clusters of individual depending on: generation, level of education and job position. The paper ends with final remarks about managerial implications.

*Keywords: People management, job satisfaction, people-care workers, welfare sector.*

## **Job satisfaction in people care sector**

According to motivational theories incentives, play a crucial role in guiding people performance and behaviours (Weiner, 1980). The most common objective of reward systems is, in fact, to guide people (Weiner, 1980) and to increase the amount of effort that employees put into work in order to obtain a set of effective behaviours (Katz & Kahn, 1964) as requested by the organization, these are: performance, commitment, cooperation.

In the literature on compensation, the systems of incentives have two main objectives. First, to increase employee productivity, and thus the overall performance of a business, and, second, to attract and retain workforce, especially high value people (Kessler & Purcell, 1992).

According to the theory of “organizational balance” (Barnard, 1938; Simon, 1947; March & Simon, 1958) the decision of individuals to ‘contribute’ to the organization, and then to accept its subsequent ‘restraints’ and limits to their autonomy, is possible “when their activities in the organization contribute directly or indirectly to their individual purposes” (Simon, 1947; 181). Individuals may, in other words, find immediate satisfaction through participation *per-se* (i.e. identification) or by the counterparts they receive (i.e. incentives).

Starting from this theoretical premises, we had considered the taxonomy introduced by Lawler (1973) and Deci (1975) that distinguishes between: extrinsic and intrinsic incentives.

On the one end, individuals who are extrinsically oriented seek their reward in their external environment, using the work as an instrument (Dyer & Parker, 1975). In this sense, extrinsic incentives are those related, for example, to: pay, benefit, career opportunities.

On the other hand, the intrinsic incentives are those associated with the contents of the task. In other words, people are intrinsically oriented if it is found that doing that work itself is a reward. Even Chester Barnard, at the end of the Thirties, added to the positions of Elton Mayo, introducing the category of non-material incentives, referring to the importance of fulfilment based on cooperative action in the organization. In the thinking of Barnard, social relations are at the centre of individual perceptions and are seen as crucial to the positive experience of working (Barnard, 1938). Examples of intrinsic incentives are: variety, social support and working environment.

In his work on effects of intrinsic and extrinsic “motivators”, Deci (1971) shows the negative effects of contingent rewards on intrinsic motivation. In fact, according to the author, the provision of a reward, changes the locus of causality from intrinsic to extrinsic factors and increases the perceived instrumentality of the task. In other words, to receive a contingent reward for an action that the individual would have made anyway, even in the absence of reward and based on intrinsic motivation, reduces the motivating effect resulting from intrinsic motivation. As stated by Frey “an intrinsically motivated person is denied the stifle to display his or her own interest and involvement in an activity, when someone else offers a reward” (Frey, 1997, p. 47) and hence the propensity to ‘active participation’. According to the research by Deci (1975) and Kruglanski (1978), the emphasis on compensation based on contingent reward would increase the orientation to extrinsic reward and would choke the orientation for intrinsic reward. This, because the specific structure of these incentives shows the link between money and performance and consequently it reduces the development of personal initiatives and the processing of their cognitive structures. Furthermore, it could feed a “vicious circle” in which the use of monetary incentives, in time, could lead to their devaluation in the perspective of individual motivation (Tyagi & Block, 1984).

Moreover, in our view, the repeated use of this form of incentive could lead, over time, to link the individuals to the incentive rather than to the company or the job itself and consequently to threaten the possibility of their future permanence within the same organization. Further, this reward policy is extremely costly.

Other researches confirms this view, about the relation between contingent rewards and extrinsic interests. Furthermore, it is suggested that the influence of contingent incentives on intrinsic interests depends on how they are perceived. If they are viewed as a means to control the behaviour of workers, the incentives tend to reduce the intrinsic orientation. On the contrary, when the



incentives are perceived as information on the skills of the subject and therefore are seen, for example, as a recognition of improved performance, these incentives help to increase the intrinsic motivation (Fiske & Taylor, 1984; Ryan, Mims, Kowtner, 1983).

In this sense, HR assume a strategic value and it is here suggested a holistic approach to the use of compensation mechanisms that takes in account the effective utility function or the psychological balance equilibrium.

This specifically referring to the category of workers and the sector we are here investigating, these are the people care workers or social workers in welfare sector.

In fact, previous studies have demonstrated the high level of commitment and satisfaction of these figures regardless of the use of financial inducements (Mauno et al. 2007; De Gieter et al, 2008; De Gieter et al, 2006; Hullko- Nyman et al, 2009).

Within the field of personal care, numerous economic and psychological studies have dealt with individual workers characters in relation to the determinants of their organizational behavior. Many contributions bring to light the fact that although wages in this sector are lower than average, it is shown that job satisfaction and commitment to values of social workers are higher compared to other workers (Mauno et al, 2007; Mosca et al, 2007) . The literature shows that this type of workers, which we identify as social workers, are mainly driven by a motivation of intrinsic nature (Leete, 2000). However, the intrinsic meaning of the work is for all workers, not just those in the field of elderly care, a point on which the debate on the "economics of happiness and well-being" places a greater emphasis than in the past (Frey and Stutzer , 2006). According to these studies the workers, especially those with higher educational level, place an increasing emphasis on aspects other than money (Frey, 2005).

Therefore, considering reward systems in a holistic perspective is that we could define, for modern organizations, a key mode to supervise existing staff and attract new. Supervise the welfare of employees in the workplace contributes, in general, to promote organizational effectiveness (Heneman and Judge 2000;. Hulkko, Sweins and Hakonen, 2006; Muse, Harris, Giles and Field, 2008).

Most of the studies that to date have focused on reward systems have focused mainly on individual types of rewards most often extrinsic in nature. Consider, for example, studies on performance-based pay or pay-oriented results (Jenkins, Mitra, Gupta and Shaw, 1998). However, some authors, including Armstrong and Stephens (2005: 15), show that a holistic approach to compensation policies have a major impact at both individual and organizational profitable than using individual tools. According to the authors, in fact, the effects produced by different types of rewards tend inevitably to be combined with each other and to encourage greater individual satisfaction. Many studies have used such a holistic view (DeGieter et al, 2008; Muse et al, 2008; Peterson and Lufthansa, 2006).

Some works consider the two components of satisfaction (i.e. extrinsic and intrinsic) and their relation with organizational behavior in the context of social workers. In his analysis Brown (1996) shows that aspects related to the intrinsic satisfaction are closely related to the commitment at work, more than the extrinsic aspects. With reference to the intrinsic nature of incentives, O'Reilly and colleagues (Caldwell et al. 1990; O'Reilly & Chatman, 1986) claim that these are positively and significantly related to commitment, specifically emotional, and involvement in work. On the other hand, the high level of identification and affective commitment of this group of workers (Mauno et al., 2007) is a critical element for the decision not to leave the organization. Overall job satisfaction is correlated negatively with turnover intention (Larwood et al, 1998).

Further, according to previous studies job satisfaction correlated positively with job related wellbeing, satisfaction with rate of pay, perceived job competence and perceived job control (Norman et al, 1995; Wright and Cordery, 1999).

## Specificities of the service in the ‘people care’ sector

The sector is characterized by a complex type of service, that can be defined as 'people-intensive' as that is the human component and relationship is determinative. It is recognized, therefore, a critical strategic role of human resources and not only in terms of their specific skills but also their attitudes and socio-relational attitudes.

For this type of work and its particular relational nature, it is difficult to monitor and evaluate the work of the “agent”. In fact, this kind of commitment to the profession can not be assessed according to the more traditional quantitative criteria. Both the output and the actual contribution of individual workers are difficult to identify and evaluate as it is often linked to the relational component of all actors – client and worker - involved in service delivery. In this context, the output is highly dependent not so much on the hours worked but rather on the quality and intensity of work and this in turn is linked to the job satisfaction. The effort, commitment and dedication of the worker, or work engagement, however, are difficult to measure and control (Mosca et al., 2007). For these types of professions, a tight control on the activities of 'agents' would be more expensive and ineffective.

Moreover, the attempt to introduce quantitative and formalized practices of work organization could contribute significantly to weaken the "human" component of the service. At the same time the classic economic incentives on the one hand are difficult to apply because of the difficult to measure individual performance and on the other are 'not welcome' to the workers in this sector.

## The context of social cooperatives in Italy

Social cooperatives in Italy show a predominant vocation of *social enterprise* in "substituting" the public sector in providing services for elderly care, kinder, handicapped etc. The Italian context, in fact, is characterized by three main types of organizations which are active in the people care sector, these are: public administration, private health organizations and social cooperatives. The social cooperatives and private organizations have most of time their services offered to the market and at the same time to the public sector.

Social cooperatives reveal considerable importance in health care sector in Italy. In fact, approximately 2% of the total active population is employed in this sector. Furthermore, this sector shows a higher employment growth rate than cooperatives operating in other sectors and *profit* companies in general (Excelsior, 2008).

Moreover, in Tuscany, this phenomenon is even more pronounced as shown by the wide dissemination of cooperatives in social welfare (Excelsior, 2008). Some authors define the social welfare in Tuscany as "an extension of the public administration system in the market" (Volterrani & Bilotti, 2008). Furthermore, the sector is perceived as a low-wages sector and, in some case (e.g. in the elderly sector) there is the propensity to consider it as a possible alternative for people fired from firms operating in traditional sectors which currently are experiencing a heavy crisis.

As for the reward system in the social cooperatives in Italy, the contractual wage level of workers engaged in the people care sector in Italy, with particular reference to the social cooperatives, is on average lower than those provided for workers in public administration and, in some cases, in private social and health organizations. This is also confirmed by the analysis of labor cost. In fact, according to a recent analysis (Irpel, 2008) related to Tuscany, cooperatives operating in social and health sector show a high differential in terms of overall labor costs per employee than *for profit* organizations operating both in the same sector and in general (Irpel, 2008).

The individual base pay in social cooperatives is determined mainly by the *professional profile*, acquired by the individual through his/her education career and the *specific role* for which the individual is recruited (job requirements). Often, no pay for performance is applied in this sector.

With regard to the benefit system, benefits are not mentioned in national contracts neither in supplementary contracts which are not common in this specific field (furthermore the cooperatives here investigated are Small and Medium Coops). Some evidence show that most of the time, benefits derive from a free initiative of the cooperatives themselves. Mainly benefits in this context consist in discount of services to employees. In general, the perception that workers have of the benefit system is not completely positive or they simply declare that a benefit system does not exist at all in their cooperatives. Furthermore, as emerged from interviews with the managers of the cooperatives investigated, benefit systems, when present, seem to be related in a good measure to the fact that the cooperative itself belong to a network of cooperatives which offers specific sector to the members (cooperatives) such as training programs and counseling (e.g. for quality management).

## **Method**

### *Sample and data collection*

The research-project on Reward Management in People Care sector started at the end of 2008. The data used in this study was gathered in 2009. The sample (N=250), used for the purpose of this paper, is composed of social cooperatives operating in the Tuscany region (central Italy).

All the 12 Italian organizations are social cooperatives. All of them are located in the Tuscany region and operate in different people care sectors (i.e. elderly care, kindergarten, handicapped and minors care).

### *Measurements*

The questionnaire included items on respondent background, total rewards perceptions and work engagement.

First the descriptive statistics of items were explored (SPSS 17.0 program). Then the summated variables were formed, scale reliability was tested with Cronbach alpha. Then the data was analyzed by using hierarchical multiple regression analysis.

The measure used, originally developed by Warr, Cook and Wall (1979), was validated in Italian by Mangavita and colleagues (2009). The scale use 17 items to describe overall satisfaction. The measure has two subscales assessing satisfaction with extrinsic (9 items) and intrinsic (8 items) aspects of job. The extrinsic satisfaction items are: Recognition = *the recognition you get for a good work*, Director = *your immediate boss*, Remuneration = *your rate of pay*, Administration = *relationship between management and workers*, Career = *your chance of promotion*, Management = *the way your company is managed*, Hours = *your hours of work*, Security = *your job security*, Distribution = *distribution of work loads*; the intrinsic satisfaction items are: Environment = *the work conditions*, Freedom = *the freedom to chose your own method of working*, Co-workers = *your fellow workers*, Responsibility = *the amount of responsibility you are given*, Abilities = *the opportunity to use your abilities*, Attention = *the attention paid to the suggestions you make*, Variety = *the amount of variety of your job*.

## **Analysis and results**

### *Questionnaire validation*

Coherently with previous studies (Magnavita et al, 2009) the italian version of the satisfaction scale maintains the unitary nature of the original version by Warr et al (1979). A factor analysis was

performed using the extraction method principal component analysis. Two component were extracted without rotation. Factor analysis showed that the first principal component account for 46% of total variance (see table 1). This component correlated with all of the 17 items. Internal consistency of the JSS questionnarire, as measured with Crnobach's coefficienti s based on the correlation between the items is very high (0,924) confriming the internal consistency of the scale. In previous researches coefficient alpha for the composite measure of overall satisfaction ranged from 0.80 to 0.91 (Abrham & Hansson, 1996; Norman, Collins, Marhan and Rance, 1995). Coherently with Warr et al (1979) in table 1 it is reported the different nature of the 16 itmes of the scale: i.e. (I)=intrinsic and (E)= extrinsic.

	Component	
	1	2
Environment	0,715	-0,394
Freedom	0,742	0,05
Co-workers	0,643	-0,42
Recognition	0,759	-0,013
Director	0,777	-0,265
Responsability	0,528	0,286
Remuneration	0,629	0,445
Abilities	0,717	0,279
Administration	0,764	0,095
Career	0,704	0,345
Management	0,623	-0,28
Attention	0,69	-0,254
Hours	0,607	0,079
Variety	0,725	-0,207
Security	0,526	0,304
Distribution	0,598	0,5
Overall	0,694	-0,321
Eigenvalue	7,797	1,528
% of variance	45,863	8,987

An analysis of some determinants of Job satisfaction (JS) in the following paragraphs an analysis is presented considering three determinants for JS. These are: age, considered in terms of belonging to one of the active generations, education level and job position.

The pursue of this analysis is to understand how different aspects of job (intrinsic and extrinsic) differ in different categories of workers. This in order to support workers and supervise their overall satisfaction in order to prevent fall in commitment or turnover.

#### *Age as determinant of JS*

Sociological and managerial literature (Frey, 2001) consider the generation as a determinant for the individual behaviours within the organization. Among the active population three are the generations considered. These are the baby boomers generation with birth years 1943 to 1960-1964,

Generation X from 1961-1964 to 1981 and Generation Y from 1982 to 1993. Now a day, generation Z is next to enter the job market (Reindonlds, 2005).

For the purposes of this analysis we considered as Baby boomers individual born between 1943 and 1963, as generation X individuals born between 1964 and 1981 and Generation Y from 1985.

In table 2 are reported the means for all the different clusters analysed in the paper, i.e. generation, education and job level. In contrast with prior studies which suggest a u-shaped relation between age and satisfaction (Clark, 1997; Oswald, 1996) evidence for generation clusters show a lower mean for almost all job aspects for Baby boomers, the oldest employees. While generation X workers are in average more satisfied for aspects related to job design (variety, hours, career) and relational aspects (environment and co-workers), generation Y are in average more satisfied with aspects related to authority (director, responsibilities, attention given to opinion, freedom).

ANOVA was used for comparisons between means of overall job satisfaction measured as a mean of Warr JS scale. Analysis show that there is no evidence of a significant difference between means among different generations ( $p>0.05$ ).

In order to further investigate the prior descriptive evidence a logistic regression analysis was performer for the pursue of this paper. Results in table 3 show some interesting relations between single items of the JS scale and the three generations. In particular, the youngest, i.e. Y generation, are more satisfied by the environment they find in the cooperative (I), attention paid to suggestions you make (I) and distribution of work (E), but less satisfied by security (E) and recognition you get for good work (E). Generation X workers are more satisfied by the environment (I) and chance of promotion (E) and less by your immediate boss (E).

For baby boomers we can highlight some trends. They show to be less satisfied with attention paid to suggestions you make (I) and chance of promotion (E).

### *Education as determinant of JS*

Evidence in the sector show a reverse U-shaped relation between satisfaction and education. In his study on education Tsang (1991) compares employees with “required education” and employees with “surplus education”. His study highlight a positive relation between “required education” and satisfaction and a negative relation with “surplus education”.

According to table 2, compulsory and professional education clusters are in average the less satisfied. Secondary education cluster show to be more satisfied in aspects related to authority aspects (recognition, directors, responsibility) while graduated and post graduated are more satisfied in average with job design aspects such as variety, hours, freedom and social aspects such as environment and co-workers.

ANOVA was used for comparisons between means of overall job satisfaction measured as a mean of Warr JS scale. Analysis show that there is evidence of a significant difference between means among different education ( $p<0.05$ ). For the purpose of this study, education was codified as follows: 1= compulsory education; 2=professional diploma; 3=secondary school diploma; 4=graduated; 5=post graduated.

**Table 2 - Means for generation, education level and job level.**

	Means for Generations				Means for Education Level						Means for job level			
	Sample	baby	genX	genY	Sample	Compulsory	Professional	Secondary	Graduated	Post-graduated	sample	Assistant job	Care work	Professional or manager
Environment (I)	3,8077	3,4318	3,9682	3,7500	3,8970	3,6576	3,4444	4,0474	4,1349	3,5714	3,8357	3,6667	3,5727	4,1471
Freedom (I)	3,5278	3,2045	3,6146	3,8000	3,5237	3,0188	3,4706	3,7294	3,8115	3,7143	3,5176	3,1486	3,1381	3,9868
Co-workers (I)	4,0491	3,9318	4,1624	3,8000	4,1407	4,0699	4,0588	4,1174	4,2937	4,2857	4,1069	4,1087	3,9054	4,2941
Recognition (E)	3,3248	2,8864	3,4522	3,3500	3,3925	3,1374	3,0000	3,5522	3,5873	3,2857	3,4124	3,4348	3,1091	3,6864
Director (E)	3,9829	3,7727	4,0446	4,0500	4,0508	3,8817	3,9412	4,1174	4,1825	4,2857	4,0217	4,0652	3,7658	4,2437
Responsability (I)	2,7885	2,2614	2,8726	3,1000	2,8339	2,9831	2,6471	2,8728	2,6452	2,4286	2,8095	3,4886	2,6409	2,7143
Remuneration (E)	2,3974	1,9773	2,4459	2,8500	2,4746	2,3226	2,3529	2,6000	2,5556	2,0000	2,4710	2,6522	2,3288	2,5336
Abilities (I)	3,3483	3,0682	3,4108	3,7000	3,3736	3,1709	3,1250	3,6009	3,3226	3,1429	3,3333	3,4189	2,9854	3,6174
Administration (E)	3,4509	2,9545	3,6019	3,7000	3,4728	3,0069	3,6154	3,6250	3,7213	3,5714	3,4601	3,4143	3,0489	3,8153
Career (E)	2,8504	2,2727	3,0064	2,9000	2,8615	2,5941	2,9412	3,1193	2,8000	2,4286	2,8436	3,1125	2,4238	3,1360
Management (E)	4,0235	3,6818	4,1306	4,0000	4,0799	3,8851	3,9412	4,1886	4,2302	3,7143	4,0446	4,0349	3,8148	4,2585
Attention (I)	3,3697	2,8523	3,5064	3,6250	3,4399	3,1966	3,5294	3,4478	3,6825	4,0000	3,4338	3,1889	3,1944	3,7437
Hours (E)	3,6752	3,5000	3,7420	3,7000	3,7120	3,4268	3,8235	3,7824	3,9194	3,8571	3,7035	3,5610	3,3932	4,0351
Variety (I)	3,6902	3,4773	3,7739	3,6000	3,6997	3,4066	3,4118	3,8130	3,9762	3,8571	3,6606	3,6087	3,2682	4,0466
Security (E)	3,6047	3,5682	3,7038	3,2000	3,5982	3,5176	3,9375	3,6955	3,4839	3,2857	3,5958	3,6977	3,5000	3,6435
Distribution (E)	<b>2,7222</b>	2,4205	2,7580	3,2750	2,7649	2,5610	2,6000	2,9952	2,6833	2,7857	2,7560	3,1842	2,5392	2,8091
Overall	4,0021	3,7955	4,0796	3,8000	4,0203	3,7742	3,8235	4,2217	4,1032	3,7143	3,9891	3,8043	3,8874	4,1555

**Table 3 – Results of logistic regression by generations**

Variable	Model for Generation Y		Model for generation X		Model for baby boomers	
	b	Exp (b)	b	Exp (b)	b	Exp (b)
Environment	,789 *	2,201	,415 *	1,515	-,308	,735
Freedom	,428	1,535	-,080	,924	-,090	,914
Co-workers	-,267	,765	,103	1,108	,295	1,343
Recognition	-,594 *	,552	-,030	,971	,007	1,007
Director	-,122	,885	-,392 +	,675	,388	1,474
Responsability	-,122	,885	,053	1,054	-,204	,815
Remuneration	,370	1,448	-,125	,882	-,280	,756
Abilities	,146	1,158	-,205	,815	,200	1,221
Administration	-,145	,865	,269	1,309	-,242	,785
Career	-,047	,954	,320 +	1,377	-,409 +	,664
Management	,344	1,410	,023	1,023	-,142	,867
Attention	,602 *	1,827	,287	1,332	-,460 +	,632
Hours	-,166	,847	-,044	,957	,093	1,097
Variety	-,587 +	,556	-,005	,995	,316	1,372
Security	-,546 *	,579	,109	1,116	,201	1,223
Distribution	,710 **	2,033	-,094	,911	,086	1,090
Overall	-,493	,611	-,014	,986	-,163	,849
Intercept	-2,011 +	,134	-1,164	,312	-,098	,906
Model Chi-square	37,128		24,711		31,280	
Degrees of freedom	17		17		17	

Note: +p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Particularly, through a post hoc test analysis we discovered that the mean of the lowest level of education is significantly lower compared to other two groups, i.e. people with a secondary school diploma or graduated.

In order to further investigate the prior descriptive evidence a logistic regression analysis was performed for the purpose of this paper. Results in table 4 show some interesting relations between single items of the JS scale and education. In particular, the compulsory education cluster are more satisfied by responsibility (I) and security (E) and less by freedom (I) and attention (I); secondary school cluster are more less satisfied with variety (I); graduated are less satisfied with responsibility (I) and security (E); and post graduated cluster is less satisfied with management (E) and more with attention (I).

**Table 4 – Results of logistic regression by education levels**

Variable	Model for compulsory education		Model for professional diploma		Model for secondary school		Model for graduated		Model for post-graduated	
	B	Exp (b)	b	Exp (b)	b	Exp (b)	B	Exp (b)	b	Exp (b)
Environment	-,021	,979	-,705	,494	,255	1,290	,369	1,446	-,826	,438
Freedom	-,483 *	,617	-,098	,907	,130	1,139	,412	1,510	-,218	,804
Co-workers	,214	1,238	-,037	,964	-,184	,832	,129	1,138	1,668	5,301
Recognition	-,280	,756	-,817	,442	,129	1,138	,246	1,279	-,316	,729
Director	,148	1,159	,490	1,633	-,144	,866	-,294	,746	1,190	3,288
Responsability	,391 *	1,479	-,079	,924	,048	1,049	-,417 *	,659	-,171	,843
Remuneration	-,196	,822	,136	1,146	-,112	,894	,368 +	1,445	-,816	,442
Abilities	,148	1,160	-,071	,932	,078	1,081	-,318	,728	,079	1,082
Administration	,000	1,000	,544	1,722	-,094	,910	,160	1,174	-,432	,649
Career	-,049	,952	,216	1,241	,190	1,209	-,180	,835	-,290	,748
Management	-,209	,811	,076	1,079	,027	1,027	,227	1,255	-1,712 *	,180
Attention	-,356 +	,701	,448	1,566	-,052	,950	,164	1,178	1,738 *	5,687
Hours	,004	1,004	-,120	,887	-,018	,982	,025	1,025	,680	1,974
Variety	,270	1,310	-,491	,612	-,475 *	,622	,276	1,318	1,096	2,994
Security	,418 *	1,519	,684	1,981	-,150	,860	-,495 *	,609	-,390	,677
Distribution	-,260	,771	-,345	,708	,364 +	1,439	-,074	,928	,954	2,597
Overall	-,373	,689	,287	1,332	,567 *	1,763	-,341	,711	-1,889 *	,151
Intercept	,765	2,149	-4,260 *	,014	-2,163 *	,115	-2,404 *	,090	-7,150 +	,001
Model Chi-square	<i>35,019</i>		<i>16,336</i>		<i>22,404</i>		<i>32,649</i>		<i>20,191</i>	
Degrees of freedom	<i>17</i>		<i>17</i>		<i>17</i>		<i>17</i>		<i>17</i>	

Note: +p<0.1; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001



*Job position as JS determinant*

We hypothesize a different relation existing between different types of professionals and satisfaction. To do this we coded job-levels into three groups, 1 = assisting jobs, such as cleaning, that require no professional training (an employee can be trained at work), 2 = care-work, such as practical nurse, that requires post-secondary level vocational qualification, and 3 = professionals and managerial jobs such as nurses and head nurses, jobs typically requiring college-level education or higher.

According to table 2, care workers are the less satisfied in average for almost all aspects of job. Professional managers are more satisfied, compared to other clusters, for aspects related to job design such as variety, hours, career and aspects related to authority such as recognition and director. Assistant job cluster are more satisfied for aspects such as co-workers, responsibility, remuneration, security and distribution.

ANOVA was used for comparisons between means of overall job satisfaction measured as a mean of Warr JS scale. Analysis show that there is evidence of a significant difference between means among different job positions ( $p < 0.05$ ). Particularly, through a post hoc test analysis we discovered that the mean of the second group, i.e. care work, is significantly lower from the other two groups, assisting jobs and professionals and managers.

In order to further investigate the prior descriptive evidence a logistic regression analysis was performer for the pursue of this paper. Results in table 5 show some interesting relations between single items of the JS scale and job position.

**Table 5 – Results of logistic regression by job position**

Variable	Model for assisting jobs		Model for care work		Model for professionals and managerial jobs	
	b	Exp (b)	b	Exp (b)	b	Exp (b)
Environment	-,270	,764	-,071	,931	,261	1,299
Freedom	-,611 *	,543	-,180	,835	,594 *	1,812
Co-workers	,148	1,159	-,049	,952	,053	1,055
Recognition	-,224	,800	,013	1,013	,359 +	1,431
Director	,395	1,484	-,050	,951	-,251	,778
Responsability	,698 **	2,011	,068	1,071	-,489 **	,613
Remuneration	-,484	,616	,221	1,247	-,036	,965
Abilities	-,101	,904	-,137	,872	,004	1,004
Administration	,203	1,225	-,182	,834	,158	1,171
Career	,575 *	1,777	-,377 *	,686	,043	1,044
Management	-,037	,964	-,088	,916	-,084	,919
Attention	-,840 *	,432	,095	1,100	,298	1,347
Hours	-,124	,883	-,205	,814	,175	1,191
Variety	,418	1,519	-,885 ***	,413	,533 *	1,704
Security	,159	1,172	,290 +	1,337	-,472 **	,624
Distribution	,766 *	2,151	-,109	,897	-,047	,954
Overall	-,770 +	,463	,998 **	2,713	-,726 *	,484
Intercept	-1,435	,238	1,280	3,598	-1,657 +	,191
Model Chi-square	42,045		53,380		62,392	
Degrees of freedom	17		17		17	

Note: + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

In order to further investigate the prior descriptive evidence a logistic regression analysis was performed for the purpose of this paper. Results in table 5 show some interesting relations between single items of the JS scale and job position. In particular, assisting jobs are more satisfied by responsibility (I), career (E) and distributive (E) and less by freedom (I) and attention (I); care workers are more less satisfied with variety (I) and career (E); professionals and managers are less satisfied with responsibility (I) and security (E) more with freedom (I). A similarity with educational clusters can be seen.

## Conclusions

The analysis developed in this paper represents an attempt to propose a methodological approach for the design of job systems within people care organizations. The key point of this work is that organizations should consider the individual perspective as central in human resource (HR) policies. In this manner firms could: customize HR policies, putting people at the centre of their actions, avoid the use of standardized HR policies and “keep in mind” the expectations of the organization and individuals.

From the analysis some useful elements seem to emerge. In fact, the paper highlights the existence of different job satisfaction perception between different groups within the firm. In particular in the paper a distinction is made on: generation, job level and education.

As for *generational clusters* the most critical in terms of evidences is the Y generation, the one composed by the youngest among which non tenure job prevails. For these individuals a high satisfaction is perceived in terms of job environment, attention given to their opinions and distributive justice (in terms of amount of work), a low satisfaction is perceived in terms of recognition and job security. They show to be more satisfied with aspects related to authority but what seem to distinguish their satisfaction path are the relational aspects (environment and attention).

Among *job positions* it is highlighted first, that care workers, i.e. the key professional for this service, are in average less satisfied than others. In particular, they are characterized by a low and significant satisfaction for *career* and *variety* among care workers; according to this, we can suggest that care workers are a “locked role”. This mean that they do not have the opportunity to develop otherwise and this could represent a critical point in their retention. Assistant roles are characterized, compared to others, by low freedom and attention. The question we posit is, do they have something to say that it is unheard?

If we have a look to overall satisfaction for these clusters we can hypothesize a reverse U-shaped relation between job level and overall job satisfaction. In fact, the overall mean for care workers is significantly lower than the average satisfaction of the other two job positions.

In terms of *education clusters* results suggest that graduated are less satisfied with responsibility. An explanation of this evidence can be found in the work by Tsang (1991) in which he states that “required education” is positively linked to job satisfaction. In this terms it is probably an imbalance between responsibility and education and this in turns lead to job dissatisfaction. Further, graduated are less satisfied with security which represents a controversial issue (Hullko-Nyman et al, 2012). This could be a matter of age. In fact, youngest which hold usually higher education degrees and hold higher job positions are the one that have more expectancies in terms of job security but the ones that most of time do not have a tenure.

If we have a look to overall satisfaction for these clusters we can hypothesize a reverse U-shaped relation between education and overall job satisfaction. In fact, the overall mean for lowest level of education is significantly lower compared to people with secondary school diploma and with graduated.

In terms of managerial implications it is important to stress the criticality for firm effectiveness of employees job preferences understanding. A cluster analysis of satisfaction about different job aspects among different groups of workers may help organization to *taylor-designed* incentive

systems within the organization and favour the effort-incentive balance of each worker and in turn his/her work engagement.

Evidence emerging from the study deserve to be investigated further in order to find a general interpretation. I believe, however, that the way in which the problem was addressed may be worthy of attention and guide researchers to undertake new paths of analysis and firms to adopt new managerial logic for HRM.

## References

- Abraham, J.D., and R.O. Hansson (1996). "Gender Differences in The Usefulness of Goal-Directed Coping for Middle-Aged and Older Workers," *Journal of Applied Social Psychology*, 26, 657-669.
- Armstrong, M., and T. Stephens (2005). *A Handbook of Employee Reward Management and Practice*. London: Kogan Page.
- Barnard, C.I. (1938). *The Functions of The Executive*. Cambridge, MA: Harvard University Press.
- Brown, S.P. (1996). "A Meta-Analysis and Review of Organizational Research on Job Involvement," *Psychological Bulletin*, 120 (2), 235-255.
- Caldwell, D., J. Chatman, and C. O'Reilly (1990). "Building Organizational Commitment: A multifirm study," *Journal of Occupational Psychology*, 63, 245-261.
- Deci, E.L. (1971). "Effects of Externally Mediated Rewards on Intrinsic Motivation," *Journal of Personality and Social Psychology*, 18, 105-115.
- Deci, E.L. (1975). *Intrinsic Motivation*. New York: Plenum.
- De Gieter, S., R. De Cooman, R. Pepermans, R. Caers, C. Du Bois, and M. Jegers (2006). "Identifying Nurses' Rewards: A Qualitative Categorization Study in Belgium," *Human resources for health*, 4:15.
- De Gieter, S., R. De Cooman, R. Pepermans, and M. Jegers (2008). "Manage Through Rewards, Not Only Through Pay: Establishing The Psychological Reward Satisfaction Scale," in *Reward Management – Facts and Trends in Europe*. Ed. M. Vartiainen, C. Antoni, X. Baeten, N. Hakonen, R. Lucas and H. Thierry. Pabst Science Publishers, 97-117.
- Dyer, L., and D. Parker (1975). "Classifying Outcomes in Work Motivation Research: Examination of Intrinsic-Extrinsic Dichotomy," *Journal of Applied Psychology*, 60 (4), 455-458.
- Fiske, S., and S. Taylor (1984). *Social Cognition*. New York, NY: Random House.
- Frey, B. (1997). *Not Just for The Money. An Economic Theory of Personal Motivation*. Cheltenham: Edward Elgar.
- Frey, B. (2005). *Non Solo per Denaro. Le Motivazioni Disinteressate dell'Agire Economico*. Milano: Mondadori.
- Frey, B., and A. Stutzer (2006). *Economia e Felicità*. Milano: Il Sole 24 Ore.
- Heneman, H.G. III, and T.A. Judge (2000). "Compensation Attitudes", in *Compensation in Organizations. Current Research and Practice*. Ed. S.L. Rynes and B. Gerhart. San Francisco: Jossey-Bass.
- Hulkko-Nyman K., D. Sarti, A. Hakonen, and C. Sweins (2009). "Total Rewards Perceptions and Work Engagement in Elderly Care Organizations. Findings from Italy and Finland", paper presented at the 2nd European Reward Management Conference (RMC 2009), Brussels, Belgium, November 26-27, 2009.
- Hulkko-Nyman K., C. Swein, and A. Hakonen (2006). *Reward Management in Elderly Care Organizations. The Central Union for the Welfare of the Aged* (In Finnish: *Palkitseminen vetoa vanhustyöhön. Vanhustyön keskusliitto*).
- IRPET (2008). *Le Imprese Cooperative nel Sistema Economico della Toscana. Quarto Rapporto*. Firenze: EDIFIR-Edizioni.
- Jenkins, G.D., A. Mitra, N. Gupta, and J.D. Shaw (1998). "Are Financial Incentives Related to Performance? A Meta-Analytic Review of Empirical Research," *Journal of Applied Psychology*, 83, 777-787.
- Katz, D. (1964). "Motivational Basis of Organizational Behavior," *Behavioral Science*, 9, 131-146.
- Katz, D., and R.L. Kahn (1966). *The Social Psychology of Organizations*. New York: Wiley.
- Kessler, I., and J. Purcell (1992). "Performance Related Pay: Theory and Practice," *Human Resource Management Journal*, 2 (3), 16-33.

- Kruglanski, A. (1978). "Issues in Cognitive Social Psychology," in *The Hidden Costs of Reward: New Perspectives in the Psychology of Human Motivation*. Ed. M. Lepper, M. R. & D. Greene. NJ: Lawrence Erlbaum Associates, John Wiley and Sons.
- Larwood, L., T.A. Wright, S. Desrochers, and V. Dahir (1998). "Extending Latent Role and Psychological Contract Theories to Predict Intent to Turnover and Politics in Business Organization," *Group and Organization Management*, 23 (2), 100-123.
- Lawler, E.E. III. (1973). *Motivation in Work Organizations*. Monterrey, CA: Brooks/Cole.
- Leete, L. (2000). "Wage Equity and Employee Motivation in Non Profit and For-Profit Organizations," *Journal of Economic Behavior & Organization*, 43, 423-446.
- Magnavita, N., G. Magnavita, A. Fileni, and A. Bergamaschi (2009). "Ethical Problems in Radiology: Medical Error and Disclosure," *Radiologia Medica*, 114, 1345-1355.
- March, J.G., and H.A. Simon (1958). *Organization*. New York: Wiley.
- Mauno, S., U. Kinnunen, and M. Ruokolainen (2007). "Job Demands and Resources as Antecedents of Work Engagement: A Longitudinal Study," *Journal of Vocational Behavior*, 70, 149-171.
- Mosca, M., M. Musella, and F. Pastore (2007). "Relational Goods, Monitoring and Non-Pecuniary Compensations in The Non-Profit Sector: The Case of The Italian Social Services", in *Annals of Public and Cooperative Economics*, 78 (1), 55-86.
- Muse, L., S.G. Harris, W.F. Giles, and H.S. Field (2008). "Work-Life Benefits and Positive Organizational Behavior: Is There a Connection?," *Journal of Organizational Behavior*, 29, 171-192.
- O'Reilly, C. III, and J. Chatman (1986). "Organizational Commitment and Psychological Attachment: The Effects of Compliance, Identification, and Internalization on Prosocial Behavior," *Journal of Applied Psychology*, 71, 492-499.
- Peterson, S.J., and F. Luthans (2006). "The Impact of Financial and Non Financial Incentives on Business-Unit Outcomes Over Time," *Journal of Applied Psychology*, 91, 156-165.
- Reynolds, S., N. Ridley, and C.E. Van Horn (2005). *A Work-filled Retirement: Workers' Changing Views on Employment and Leisure*. August. New Brunswick, NJ: Rutgers, the State University of New Jersey, John J. Heldrich Center for Workforce Development.
- Ryan, R.M., V. Mims, and R. Koestner (1983). "Relation of Reward Contingency and Interpersonal Context to Intrinsic Motivation: A Review and Test Using Cognitive Evaluation Theory," *Journal of Personality and Social Psychology*, 45, 736-750.
- Simbula S., D. Guglielmi, and W.B. Schaufeli (2010). "A Three-Wave Study of Job Resources, Self-Efficacy, and Work Engagement Among Italian Schoolteachers," *European Journal of Work and Organizational Psychology*, in press.
- Simon, H.A. (1947). *Administrative Behavior*. New York: MacMillan.
- Tyagi, P., and C. Block (1983). "Monetary Incentives and Salesmen Performance," *Industrial Marketing Management*, 12 (4), 263- 269.
- Unioncamere-Sistema Informativo Excelsior (2008). *I Fabbisogni Professionali e Formativi per Le Imprese Sociali per Il 2008*. Roma.
- Volterrani, A., and A. Bilotti (2008). *Competenze, Conoscenze e Strategie. Verso Il Futuro della Cooperazione Sociale in Toscana*. Milano: Franco Angeli.
- Warr, P., J. Cook, and T. Wall (1979). "Scales for The Measurement of Some Work Attitudes and Aspects of Psychological Well-Being," *Journal of Occupational Psychology*, 52, 129-148
- Weiner, N. (1980). "Determinants and Behavioral Consequences of Pay Satisfaction: A Comparison of Two Models," *Personnel Psychology*, 33, 741-757.
- Wright, B.M., and J.L. Cordery (1999). "Production Uncertainty as A Contextual Moderator of Employee Reactions to Job Design," *Journal of Applied Psychology*, 84, 4

# EFFICIENCY PREDICTION OF A NEW PARTICIPANT IN THE MARKET ON THE EXAMPLE OF THE BANKING SECTOR IN SERBIA

**Sava Savic**, [sava\\_savic@yahoo.com](mailto:sava_savic@yahoo.com)

**Milica Bulajic**, [milica.bulajic@fon.rs](mailto:milica.bulajic@fon.rs)

**Gordana Savic**, [gordana.savic@fon.rs](mailto:gordana.savic@fon.rs)

Faculty of Organizational Sciences, University of Belgrade, Serbia

## Abstract

The planning of the adequate usage of resources is much easier with reliable prediction of business model success on a new market. In the case of banking sector, management is usually aware of value of asset available for investment, as well as planned number of branches and employees. In order to better resource allocation, prediction of outputs, such as return on assets and revenue, is desirable. Taking into account current dynamic structure of the sector is also necessary for evaluation of relative efficiency in comparison with the competitors and determination of potential position at the market.

The aim of this paper is to propose methodology for solving described problem. The methodology is based on combination of two different approaches for sectors and entities performance assessment – the econometrics panel data model and the non-parametric operational research method, Data Envelopment Analysis (DEA). In first stage, current conditions on the market and interaction between entities with historical data are analyzed, while, in the next stage, virtual input parameters and forecast virtual output parameters are set up. In the last stage, performance of new virtual entity is compared with the other existing entities on the market. The methodology is implemented on banking sector in Serbia.

**Keywords:** business model efficiency estimation, Data Envelopment Analysis, fixed effect panel data model

## 1. Introduction

Globalization of various markets in modern economies is a process that is inevitable. Adaptation to the new trends is not the choice for business entities, but a necessity. Still, financial markets and business environment are not homogenous and predictable so companies can't have unified strategy for resolving problem of the globalization of the markets. In the period of financial crisis, price of capital and successful business investments, particularly on the new markets, are not as easy as they used to be. Managing resources and planning their usage in uncertain circumstances is usually very serious task to be solved in order to be efficient and effective on the market and in the industry of interest. In that situation it is absolutely necessary to assess all the possible risks, quantify them, make reasonable goals and choose best possible strategy to fulfill them. Good planning is always one huge step closer to success. With development of various mathematical and statistical models, price of simulation of real markets and their response to new inputs, is multiple times cost effective (in assets and time as well) than actual implementation of desired strategy. The main problem is how will the whole market respond to the new entity, from the point of view of the new participant – what will be the outputs if certain combination of inputs is used on observed market.

The aim of this paper is to propose methodology for solving the problem of making decisions if and how to participate on the new market and what to expect with some reliable level of probability. The main idea of this methodology is to choose inputs (resources for value of assets, number of workers and branches, level of risk...) and to get corresponding projected outputs (revenue and return on assets). With that combination of inputs/outputs it is possible to assess the position of a virtual entity and its rank among other participants, will it be effective and how to increase performance with adjustment of the input values. The observed market must be modeled with its dynamic structure that is influenced by internal (influence by other participants) and external (influence by other markets in observed country) factors.

Methodology is based on two essentially different analysis techniques. A very popular non-parametric operational research DEA method for the ranking of the entities, performance measurement and outlier removal will be used. For output estimation and determination of the level of competition on observed market will be used advanced econometric regression technique – fixed effects panel data regression. The methodology is general in it's core, with recommended guidelines and restrictions for implementation on various types of markets (banking systems, retail chains, telecommunications, various IT markets...). The methodology for solving described problem, in the case of the national banking sector, will be proposed in this paper.

In the section 2 of the paper will be described the concept of the whole methodology. DEA method for the efficiency assessment, ranking and outlier removal will be explained in section 3. The econometric model and belonging statistical tests, used in order to investigate the structure and competitiveness at the market and to estimate the outputs of the new entity will be briefly presented in the section 4. Implementation of the proposed methodology on the example of Serbian banking sector, with the results of the analysis of its competition and efficiency, will be given in the section 5 of the paper. How to use obtained results in order to plan the forthcoming steps and use of the available resources will be explained in more details at the end of that section. Some conclusions will be given in the last section of the paper.

## 2. Methodology

Methodology is based on 4 major stages with their substages, given in Figure 2.1. The stages are:

- Database modeling stage,
- Empirical business model creation,
- Estimated business model determination and
- Final results analysis

The main goal of the first stage is creation of valid database with relevant parameters. Mathematical analysis which is applied in later stages is based on popular techniques of econometrics and operational research. Database must fulfill some very important requirements:

- Relevant data for the observed sector has to be gathered for all participants on the market and for the whole time period of interest (some minor participants can be excluded from analysis if their influence is not important).

- Period of the analysis should be the longest possible with special attention of data consistency due to dynamic participants transactions (new players on the market, merging of two entities, bankruptcy or withdrawal of some entities...).
- Data sources should be independent if possible (financial audit reports, central bank reports, relevant government controlling institutions reports...). This should ensure reliable and objective data, and later relevant analysis of the results.
- Database is formatted as panel data where each row represents one entity in one time period (total number of rows is equal to product of number of entities and number of periods).

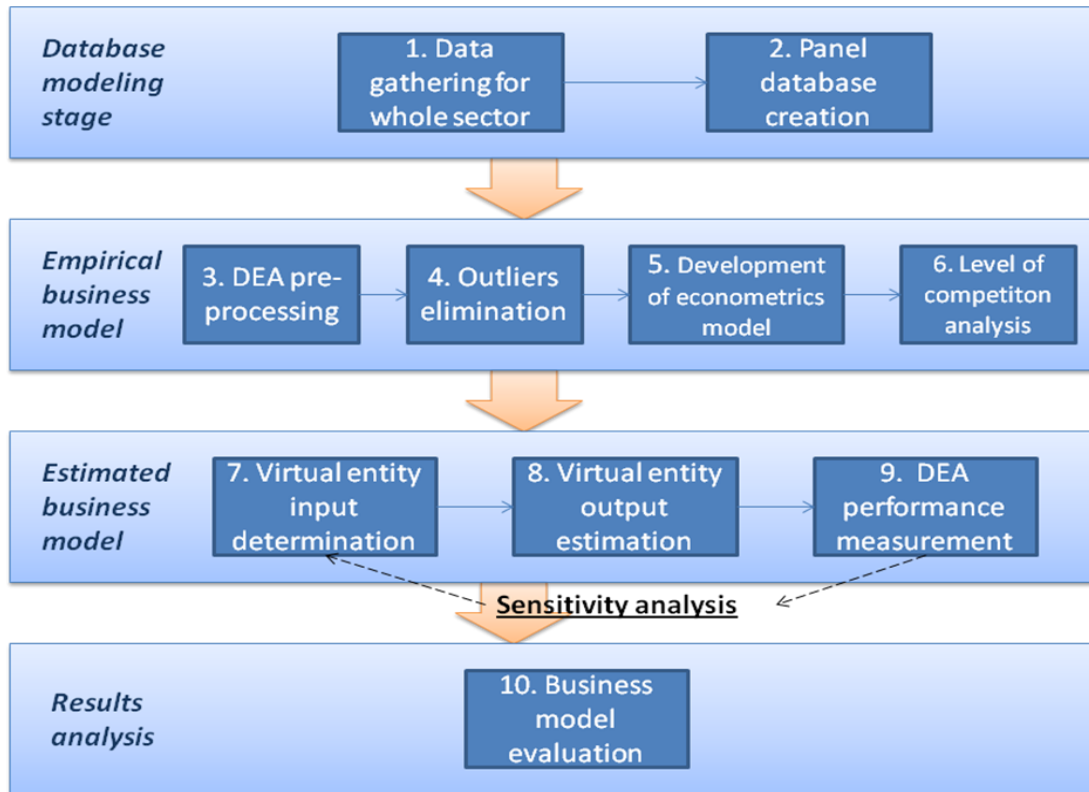


Figure 2.1. Methodology stages

In the second stage will be examined dynamic aspects of the whole market and connections among the entities. In this phase it is important to divide observed parameters on input and output parameters. While input parameters can vary from case to case (parameters concerning employed workforce, value of capital needed, fixed assets value, level of risk taken...), outputs must be standardized for this methodology – revenue (REV) and return on assets (ROA). The outliers have to be removed. They can disrupt quality of estimated parameters in econometric models. The absence of a few entities shouldn't drastically change final results of pre-processed DEA results, they should just fine-tune it so it would fit empirical state of market. This phase can be repeated until the satisfying results are obtained– purged database which well reflects current and past market state. In the last phase in this stage one of the most important phases in methodology can commence – the econometric model development. The main goal of this phase is to quantify relationships that rule the market. The main outcome of this phase is the mathematical model that can be used to estimate outputs for potential new participant in the market, based on its preferred inputs. As this model is based on Panzar-Rosse H-test methodology [1] for level of competition on the market assessment, last phase of this stage is testing if the market is in stage of monopoly, monopolistic



competition or perfect competition. This quantitative method describes very important qualitative characteristic of the observed market for the potential new participants.

The estimation of business model stage is the main stage of the methodology as that model describes how observed market works and how participants interact. The main goal of this stage is to set possible strategies for new participant which wants to enter the market. New participant is called “virtual entity” because it doesn’t really exist in the period of the analysis and estimation. The input parameters for virtual entity depend on the limitations and the directions of the new participant, such as maximum value of assets, number of branches, desired risk level.

The following phase of this stage is virtual entity output estimation, based on econometric model. This enables this part of the process to be repeated after minor input values adjustment until the satisfying results for the outputs are obtained. The last phase in this stage is incorporation of new entity into database for the last observed period. Since the assumption is that new entity will enter the market in near future, and meanwhile the market will be in similar state, only last observed period with DEA method will be analyzed. Results will point out efficiency of input combination (and output values that depend on inputs) of virtual entity compared to other entities. The main goal is to distinguish a few possible input combinations that would be interesting for last stage of this methodology and their corresponding efficiency score in DEA. Combinations that are singled out should be different in some of their main points – some should have focus on capital intense investments, some on workforce investments or investments in branching of new participant. Some balanced input combinations are desirable too.

On the beginning of the last stage, a set of input combinations and their DEA efficiency scores and ranks for virtual entity comparing to other participants in the market are obtained. Goal of this stage is to discuss possible solutions of the case study problem, point out advantages and flaws of each solution. The proposal of the best solution is desirable, but, in most cases, new participant and its aspiration on new market will determine final solution.

### **3. Data Envelopment Analysis**

DEA has been used for performance evaluation in the wide spread areas in the last 30 years. DEA was introduced in 1978. By Charnels, Cooper and Rhodes [2]. The DEA models allow the consideration of more than two inputs/outputs simultaneously and efficiency calculation of all units in the observing set. Relative efficiency ratio of observed DMU is calculated in relation to other units in the observing set. Inputs generally refer to resources, while outputs are items produced from the inputs, as a result of the process performed within the DMU. Efficiency measure is an extension of economic definition, given as ratio of sum of weighted outputs and weighted inputs. The most often applied DEA models are linear version of basic CCR models. It lets each DMU to “choose” the most appropriate set of weights in order to become as efficient as possible in comparison with the other units in the observing set. Efficiency ratio is scaled between 0 and 1, while all efficient units have the same ratio equal to 1.

In order to make difference among efficient units and allow their ranking, Andersen and Petersen introduced super-efficiency measuring model [3]. That model will be used in the research presented here.

Suppose that DMU<sub>j</sub> ( $j=1,2,\dots,n$ ) uses inputs  $x_{ij}$  ( $i=1,2,\dots,m$ ) to produce outputs  $y_{rj}$  ( $r=1,2,\dots,s$ ). Input-oriented weighted version of Andersen-Petersen's super-efficiency DEA model is following:

$$(\max) h_k = \sum_{r=1}^s \mu_r y_{rk} \quad (3.1)$$

st.

$$\sum_{i=1}^m v_i x_{ij} = 1 \quad (3.2)$$

$$\sum_{r=1}^s \mu_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0, \quad j=1,\dots,n, \quad j \neq k \quad (3.3)$$

$$\mu_r \geq \varepsilon; \quad r=1,2,\dots,s,$$

$$v_i \geq \varepsilon; \quad i=1,2,\dots,m, \quad (3.4)$$

The optimal values of efficiency scores  $h_k$  are obtained by solving the linear model (3.1)-(3.4)  $n$ -times (once for each DMU in order to compare it with other DMUs). Efficiency score  $h_k$  is greater or equal to 1 for all efficient units and smaller than 1 for inefficient units. In this way, ranking of units, according to their efficiency, is enabled. The smaller value of efficiency score  $h_k$ , the less efficient the unit. DEA results can be used in determination of the forthcoming actions in managing the observed DMU. It can offer recommendations by calculating virtual peer efficient DMU for each DMU under evaluation.

DEA is widely used for measuring performances in financial industries, especially in banking. According to Berger and Humphrey [4], DEA is used in 70 out of 131 applications, mostly in USA (23 out of 57 applications). A lot of applications have been done recently. They differ regarding the role of a bank as DMU. Some authors consider bank or bank branch as operating unit, while others consider the intermediary aspect as more important for profit making. The selection of inputs and outputs depends on chosen approach. In [5] the authors compare cost efficiency among 289 banks in 15 post-communist countries using intermediary approach. Results show that foreign banks are more competitive and have better results in the cost efficiency than domestic banks. In [6] the authors evaluate efficiency of the Polish banks. They concluded that better results were obtained when the banks were divided in two groups, domestic and foreign. Using the intermediary approach, performances were evaluated. Havrylchyk et al. in paper [7], published in 2006, carried out similar study. Profitability of the banks in Turkey has been studied in [8]. As inputs, the authors used ratio of administrative expenses and earning assets and ratio of total expenses and total earnings. On the other side, ratio of earning to total asset, ratio of loanable asset to total liabilities and return to asset have been treated as outputs. Jermić and Vujčić [9] compared banks efficiency in Croatia during the transition period from 1995 to 2000. The trend of efficiency ratio was positive, due to ownership structure changes. At the beginning of observing period, there were 1 foreign and 53 domestic banks. At the end of the period, there were 20 foreign and 20 domestic banks. Mihajlović et al. [10] attempted to evaluate performances of Serbian banking industry for the first time in 2009. DEA and I-distance methods were used.

#### 4. Fixed effect panel data econometric model

In the last 30 years in the world, many econometric models have been developed, which quantitatively evaluated conditions of modern economic systems. Depending on purpose of the approach, many authors have different point of views on analyzing whole sectors. One of the approaches is accepted by many researchers and it is has well developed theoretical

background. It is methodology for competition assessment using H-test, developed by Rosse-Panzar in 1980's [11] and which leans on Chamberlain's theory of static economic equilibrium.

The main idea of the methodology is to set a linear regression model which describes dynamic relationships on the market, by extracting parameters which are evaluated and, based on which, the value of H-statistics is calculated. H-statistics is quantitative evaluation of market competition. If H is negative, the market is ruled by monopoly. Value  $0 < H < 1$  points to monopolistic competition. Some entities are fighting to be monopolists. In case of perfect competition,  $H=1$ .

Such defined H-statistic enables comparison of competition in shorter time sub-intervals of a longer period of time and in that way gives possibility to view the competition trend of the observed branch of economy during a time period.

Due to the great importance of the banking sector in the economy, as well as transparent and standardized data given by the banks, this methodology is most widely applied in that field. As the whole methodology described in this paper is implemented on Serbian banking sector, the further discussion about H-test application will be focused on banking sector too.

Revenue test by Rosse-Panzar methodology in the banking sector is based on empirical observation of two components:

- Revenue at the level of one bank, depending on input factors,
- Mutual influence of all banks on the observed market during a defined period of time

This theory was applied for the first time in banking in the works of Shafer in 1982[12]. He modified the general equation of the model according to specific qualities of banking sector. As a response to criticism that Panzar-Rosse methodology is only efficient when the market is in long-term equilibrium, Shafer introduced a prerequisite for application of H-statistics, so-called E-statistic. It takes ROA as a dependent variable, instead of revenue; ROA depends both on total revenue and total expenses. E-statistic examines if the market is in equilibrium ( $E=0$ ).

The models are as follows [12]:

- Shafer's E-statistics:

$$\begin{aligned} \ln ROA_{it} = & \alpha'_0 + \alpha'_1 \ln PL_{it} + \alpha'_2 \ln PK_{it} \\ & + \alpha'_3 \ln PF_{it} + \beta'_1 \ln RISKASS_{it} + \beta'_2 \ln ASSET_{it} + \beta'_3 \ln BR_{it} + \gamma'_1 GROWTH_t \\ & + w'_{it} + \varepsilon'_i \end{aligned}$$

$$E = \alpha'_1 + \alpha'_2 + \alpha'_3 \quad (4.1)$$

- Panzar-Rosse H-statistics:

$$\begin{aligned} \ln REV_{it} = & \alpha_0 + \alpha_1 \ln PL_{it} + \alpha_2 \ln PK_{it} \\ & + \alpha_3 \ln PF_{it} + \beta_1 \ln RISKASS_{it} + \beta_2 \ln ASSET_{it} + \beta_3 \ln BR_{it} + \gamma_1 GROWTH_t \\ & + w_{it} + \varepsilon_i \end{aligned}$$

$$H = \alpha_1 + \alpha_2 + \alpha_3 \quad (4.2)$$

where, for the bank  $i$ ,  $i=1,2,\dots,n$  and year  $t$ ,  $t=1,2,\dots,J$ :

- ROA is the return on asset;

- *REV* is the ratio of revenue to total asset;
- *PL* is the personnel expenses to total assets;
- *PK* is the ratio of capital asset to fixed asset;
- *PF* is the ratio of annual interest expenses to total loanable funds;
- *RISKASS* is the ratio of provisions to total assets;
- *ASSET* is bank size, measured by total asset in thousands of Serbian dinars(RSD);
- *BR* is the ratio of the bank's number of branches to the total number of branches for all banks;
- *GROWTH* is the rate of growth of GDP for the year  $t$ ;

The models for banking sector consist of 4 parts:

- Variables that refer to internal factors in a bank ( $\alpha$  coefficients);
- Variables that refer to external factors that rule banking sector ( $\beta$  coefficients);
- Variables that refer to the whole economy of a country ( $\gamma$  coefficient) and
- Standard parts of all regression models (intercepts  $\alpha'_0, \alpha_0$ , observation errors that are dependent on mutual influence of banks  $w'_{it}, w_{it}$  and errors of the models  $\varepsilon'_i$  and  $\varepsilon_i$ ).

Equations (4.1) and (4.2) will be used to estimate outputs ROA and REV for the virtual (new) entity on the market, according to the market conditions and value of the inputs.

For the needs of the analysis, it is necessary to gather data on all included entities and all indicators for all years included.

## 5. Case study– Serbian banking sector

In the last ten years Serbia has been going through a transition, a comprehensive process which includes radical changes in all significant socio-economic spheres of the society. Banking sector of Serbia, which is the subject of the analysis presented in this paper, is going through turbulent changes as well, due to the process of economy revitalization and restructuring of the banking system which began in 2001. Out of about fifty banks owned by the state which operated then under very bad and nontransparent conditions and without trust from clients and Serbia's population at the end of the decade. Now, on the same market, there are over twenty foreign-owned banks and only few domestic, private or state-owned. All of them operate under significantly different conditions, under strong control by the National Bank of Serbia (NBS), which adopted many regulations that are being applied in the European Union as well. While privatization of the rest of the economy, its performance, efficacy and more or less obvious monopolies in various branches; which have dominated in the meantime, have been discussed extensively, there are few critics of the banking sector reforms a few years later.

### 5.1. Database modeling

Due to availability of consistent data necessary for comparative analysis, the research of banking competition in Serbia will include five-year period, from 2005 to 2009. The main source is the NBS [13].

NBS, as the central bank in Serbia which is responsible for monetary policy in the country, has the role of the main supervisor of all banks. Banks are obliged to send quarterly financial

reports on their business, which are then published on the NBS website. At the end of every year banks are obliged to file a report by an authorized external auditor, which represents the most reliable source of data.

On the NBS website all data from banks currently operating since 2003 are available. However, due to constant harmonization with the EU regulations, the format of the published data has been changing. Also, due to intense changes of bank owners in the period between 2003 and 2005 and merging of some banks, the analysis will not include the period before 2005. The last analyzed year is 2009.

Further analysis will be done based on data for 30 banks, since 4 out of 34 banks, operating in Serbia at the end of 2009, are excluded as a consequence of lack of necessary data. Total assets of all these banks is less than 1% of total assets in the banking sector of Serbia in 2009, so that their exclusion from the analysis will not disturb the general image and it can be considered that the whole population is included. The analysis is conducted for the whole observed period, 2005-2009, and for two sub-periods, 2005-2006 and 2007-2009. Part of the panel database is given in the Table 5.1.1.

Bank	Year	REV	ROA	PL	PK	PF	RISKASS	ASSET	BR	GDP
AIK banka	2005	0.57	1.120	0.012	10.96	0.04	0.727	22,165,513	0.015	5.614
AIK banka	2006	0.52	1.059	0.010	22.64	0.05	0.318	38,309,610	0.020	5.213
AIK banka	2007	0.24	1.065	0.006	36.67	0.05	0.719	78,288,536	0.028	6.905
AIK banka	2008	0.15	1.072	0.007	25.90	0.10	0.663	83,428,495	0.031	5.536
AIK banka	2009	0.12	1.056	0.006	27.59	0.07	0.589	109,421,475	0.030	-2.873
Alpha Bank	2005	0.18	1.017	0.054	3.38	0.02	0.481	23,614,300	0.014	5.614
Alpha Bank	2006	0.18	1.005	0.036	3.23	0.04	0.371	37,701,780	0.013	5.213
Alpha Bank	2007	0.12	1.005	0.028	2.52	0.05	0.593	50,649,190	0.056	6.905
Alpha Bank	2008	0.12	1.014	0.028	2.97	0.08	0.423	58,319,687	0.063	5.536
Alpha Bank	2009	0.07	0.962	0.020	2.34	0.05	0.480	73,649,735	0.071	-2.873

Table 5.1.1. Part of panel database

## 5.2. Empirical business model creation

The first phase of this stage is DEA pre-processing. Purpose of this stage is to determine which entities are outliers. The results are given in Table 5.2.1 There are 16 efficient DMUs. Best ranked bank by this model settings is Jubmes bank which is the smallest bank by number of branches, employees and assets and obviously some small regional banks are better ranked than more successful and popular banks.

DMU	Eff. score	DMU	Eff. score	DMU	Eff. score
JUB	6.391	UNC	1.258	PAG	0.857
AGR	2.263	UNV	1.201	CHA	0.855
BPS	2.246	MRF	1.101	KOM	0.803
VOL	1.753	ERS	1.084	MET	0.795
RAI	1.701	SOC	1.075	NLB	0.788
PPA	1.584	KBC	1.022	PBG	0.704
BAN	1.444	EFG	0.981	VOJ	0.703
CRY	1.362	PIR	0.931	CAM	0.703
FIN	1.356	SRP	0.920	ALP	0.579
HYP	1.343	PRO	0.907	OTP	0.564

Table 5.2.1. DEA efficiency scores for banking sector in Serbia in 2009

There are two possible solutions for this problem. First one is to exclude all small banks by some criteria so that they would not disrupt the results. This way does not fulfill prerequisites for this methodology - necessity to include all relevant participants on the market. These banks need to be ranked, especially if the new participant on the market is entity with similar properties too. The second solution is to implement additional restrictions in DEA model to give priority to some inputs and discriminate others. The second solution is applied and the highest priority in the case presented here is given to input ASSET, medium priority for input BR (number of branches) and lower priority for other inputs.

In DEA research, two main approaches to analysis of panel data can be used:

- Multiple DEA analysis for each observed period of time (in this case year) is to be performed and the final results are average efficiency score, standard deviation and corresponding rank for each entity. This approach analyzes the whole period as a set of discrete independent periods without their dynamic interaction.
- The second approach is to use some of advanced DEA techniques – Windows analysis or Malmquist indexes. This way whole period will be analyzed as a set of dependant periods with dynamic continues interaction. The final results are unified efficiency score and corresponding rank for each entity.

Since panel data are available, Window analysis is used here for the calculation of unified efficiency scores. After first iteration, JUB, PPA and MRF appear as outliers and considered to be excluded from the further analysis. Entity JUB had significantly outstanding results compared to other entities (average 99.50% and standard deviation 1.73%). With only 2 branches and the smallest assets it is obviously outlier and it will be excluded from further analysis. After the second iteration of DEA Windows analysis, the results presented in table 5.2.2 are obtained.

Symbol	Entity name	Average	Std. dev	Rank
AGR	AIK banka a.d. Niš	100.00%	0.00%	1
RAI	Raiffeisen banka a.d. Beograd	100.00%	0.00%	1
HYP	Hypo Alpe-Adria-Bank a.d. Beograd	99.96%	0.10%	2
BAN	Banca Intesa a.d. Beograd	99.43%	1.43%	3
UNC	Unicredit Bank Srbija a.d. Beograd	98.35%	1.30%	4
BPS	Banka Poštanska štedionica a.d. Beograd	97.47%	4.36%	5
SOC	Société Générale banka a.d. Beograd	96.89%	1.69%	6
VOJ	Vojvodanska banka a.d. Novi Sad	96.76%	1.69%	7
VOL	Volksbank a.d. Beograd	96.17%	3.93%	8
OTP	OTP banka Srbija a.d. Novi Sad	95.77%	3.81%	9
PRO	ProCredit Bank a.d. Beograd	95.03%	1.72%	10
ALP	Alpha Bank Srbija a.d. Beograd	94.61%	1.62%	11
UNV	Univerzal banka a.d. Beograd	94.39%	2.78%	12
KOM	Komercijalna banka a.d. Beograd	93.55%	6.92%	13
NLB	NLB banka a.d. Beograd	93.02%	1.26%	14
MET	Metals-banka a.d. Novi Sad	92.67%	2.06%	15
EFG	Eurobank EFG a.d. Beograd	92.41%	7.65%	16
SRP	Srpska banka a.d. Beograd	92.40%	3.62%	17
CHA	Čačanska banka a.d. Čačak	91.61%	2.42%	18
ERS	Erste Bank a.d. Novi Sad	91.29%	4.15%	19
PIR	Piraeus Bank a.d. Beograd	91.22%	1.16%	20
CAM	Crédit Agricole banka Srbija a.d. Novi Sad	90.74%	4.62%	21
PBG	Privredna banka Beograd a.d. Beograd	90.32%	1.68%	22
PAG	Agrobanka a.d. Beograd	89.68%	2.83%	23
PPA	Privredna banka a.d. Pančevo	88.76%	9.47%	24
KBC	KBC banka a.d. Beograd	88.21%	3.42%	25
FIN	Findomestic banka a.d. Beograd	86.90%	2.24%	26
CRY	Credy banka a.d. Kragujevac	86.84%	5.40%	27
MRF	Marfin Bank a.d. Beograd	86.57%	3.22%	28
		<i>Average</i>	<i>93.48%</i>	<i>2.99%</i>

Table 5.2.2. DEA Windows analysis for the time period 2005-2009

The next step is to examine the conditions of competition on the market and to estimate regression coefficients for the econometric models. Three periods, 2005-2009 and sub-periods 2005-2006 and 2007-2009, are analyzed and the results for the tests of equilibrium (E-statistics) are given in Table 5.2.3. (t-ratios are given in parentheses). The main result in this table is the equilibrium test, i.e. test of the hypothesis  $H_0$  that E-statistics does not significantly differ from 0. Wald test is used and its results show that  $H_0$  can be accepted at all significance levels for all three observed periods. The conclusion is that the banking sector of Serbia appears to be significantly in state of equilibrium. These results enable further research and application of Panzar-Rosse methodology in order to examine the competition in banking sector of Serbia.

Variable	2005-2009	2005-2006	2007-2009
Intercept	0.283 (0.674)	-0.317 (-0.209)	-2.749 (-1.864)
lnPL	-0.021 (-0.731)	-0.054 (-0.634)	-0.005 (-0.058)
lnPK	0.059 (5.034)	0.034 (2.172)	0.017 (0.669)
lnPF	-0.026 (-1.078)	0.013 (0.545)	0.124 (4.914)
lnRISKASS	0.008 (0.503)	0.017 (0.573)	-0.022 (-0.449)
lnASSET	-0.028 (-1.078)	-0.006 (-0.068)	-0.034 (-0.747)
lnBR	0.014 (0.932)	0.023 (0.31)	0.137 (1.492)
lnGROWTH	0.003 (2.060)	0.067 (1.042)	0.007 (3.3)
R <sup>2</sup> within	0.501	0.749	0.726
F-statistics	3.153	1.903	3.895
Ho : E=0	F(1,113) = 0.1365	F(1,23) = 0.0052	F(1,53) = 2.1188
Probability	0.7125	0.94	0.151
<b>E - statistics</b>	<b>0.0128</b>	<b>-0.0066</b>	<b>0.1352</b>

Table 5.2.3. Tests of market equilibrium in Serbian banking sector and estimated coefficients

The value of the contestability parameter H is given in the last row of the Table 5.2.4. In the same table are presented other relevant results of the analysis. For H-statistics are tested hypotheses  $H_0$  ( $H=0$ ) and  $H_1$  ( $H=1$ ) for the observed periods.

Variable	2005-2009	2005-2006	2007-2009
Intercept	8.533 (3.366)	10.804 (0.831)	3.223 (0.753)
lnPL	-0.167 (-0.961)	-0.974 (-1.346)	0.348 (-1.347)
lnPK	0.200 2.803	0.1494 (1.129)	0.212 (2.908)
lnPF	0.043 0.502	0.481 (2.287)	0.136 (1.849)
lnRISKASS	-0.022 (-0.229)	-0.005 (-0.018)	0.003 (0.018)
lnASSET	0.349 (2.201)	0.107 (0.154)	0.741 (2.777)
lnBR	0.041 (0.442)	0.633 (1.001)	-0.118 (-0.882)
lnGROWTH	0.011 (1.268)	0.632 (1.149)	0.003 (0.565)
R <sup>2</sup> within	0.9195	0.9703	0.9854
F-statistics	35.882	20.869	99.399
Ho : H=0	F(1,113) = 0.1329	F(1,23) = 0.1915	F(1,53) = 6.6513
Probability	0.7161	0.6657	0.0127
H <sub>1</sub> : H = 1	F(1,113) = 12.239	F(1,23) = 2.9184	F(1,53) = 1.2843
Probability	0.000	0.101	0.2622
<b>H - statistics</b>	<b>0.0767</b>	<b>-0.3444</b>	<b>0.6948</b>

Table 5.2.4. Tests of competition for Serbian banking sector and estimated coefficients

The value of H-statistics for the overall period, from 2005 to 2009, is 0.0767, positive, but near 0, and indicates that the market is not competitive. The fact that hypothesis  $H_1$  for this period is rejected, for all significance levels, confirms that. In order to analyze the problem in more details and to find trends of competition in the years of development of the banking sector, as mentioned above, the period is divided in two sub-periods and different results are obtained for them.



The value of H-statistics for the period 2005-2006 is -0.3444. Both hypotheses, H=0 and H=1, can not be rejected at none of the usual significance levels, but it can be concluded that the sector in this period is almost monopolistic. The absence of perfect competition and existence of monopoly in the observed period can be explained based on the data on banks' performances used in the analysis. Namely, two big banks (Banka Intesa and Komercijalna Banka) out of 30 analyzed, stand out due to large assets and their widely spread networks. They have a share of over 30% of these indicators (additionally, shares of expenses in relation to total assets are significantly lower than for other banks). Besides, two other banks (Hypo and Raiffeisen) are singled out due to large assets, but less widely spread networks, as well as Vojvodanska banka, due to its very well developed network, but smaller assets.

Estimated coefficients of econometric models are used in the next step when REV and ROA for the virtual entity are predicted.

### 5.3. Business model estimation

This stage will usually be predetermined by some factors provided from stakeholders (new virtual entity). Their attitude toward risk factors, value of possible assets for investment, organization efficiency, and marketing strategy can predetermine some limits for inputs. For purpose of this research virtual entity with inputs similar to the averages of the whole observed sector for the last observed year will be created. Outputs are estimated in econometric model developed in previous stages with estimated parameters.

Model	PL	PK	PF	RISKASS	ASSET	BR	REV	NASSET	<i>Eff. Score</i>	Rank
Basic	800	8.74	0.07	0.55	71,500,000	77	7,262,026	73,352,000	0.990	11
Low asset	800	8.74	0.07	0.55	<b>35,000,000</b>	77	5,022,532	36,088,057	0.981	14
Low PK	800	<b>17.00</b>	0.07	0.55	71,500,000	77	8,293,984	76,290,130	1.012	9
Low PL&BR	<b>400</b>	8.74	0.05	0.55	71,500,000	<b>40</b>	7,295,345	73,903,300	1.209	8

Table 5.3.1. Estimated business models

Initial setup of inputs determine potential outputs. Estimated outputs correspond to real entities that have similar inputs (Agrobanka and Volksbank) and it can be concluded that estimation process is valid. DEA efficiency score is 0.99 so we can conclude that virtual bank is almost efficient (efficient entities have score greater than 1). Rank of this entity is 11 out of 31 entities which represents very good score.

Since this scenario of getting average inputs in the first year is hardly possible, sensitivity analysis with several combinations of inputs is done and the results are given in Table 5.3.1. If the assets are decreased by 50%, the efficiency score will be decreased by 0.01 and the rank by 3 places. Despite the absolute value of revenue is 30% lower and the absolute value of profit 50% lower then in the previous case, the entity is still very profitable compared to other banks. Ratio of capital to fixed assets (PK) differs a lot among the banks (minimum is 0.80, maximum is 33.94). If value of PK is doubled to the value of 17.00 (invest less from founding capital in fixed assets, more in business), virtual entity becomes efficient with score 1.012 and ranks as 9th. If the workforce and branching are decreased by 50%, the best results – DEA score 1.209 and rank 8 will be obtained. Although scores are better, revenue and profit are slightly decreased. That brings up the question if absolute profit is more important then relative profit in percents for virtual entity.

#### 5.4. Final results analysis

Sensitivity analysis can provide numerous sets of data for interpretation. From those results some important and useful conclusions can help in making final decisions:

- Middle sized banks with average inputs for the whole market are profitable and efficient;
- Lower value of assets doesn't significantly influence efficiency score, but it affects absolute value of total revenue and profit;
- Lower level of branching and employed workforce compared to constant level of assets bring more efficiency without significant effect on revenue value;
- It is better to invest more funds in business than in fixed assets;
- Most efficient banks are big banks with high value of assets and number of branches;
- The best short-term investment would be in middle sized bank, long-term in development of a big bank from middle-sized bank;
- The worst investment is in development of a small bank as they are not profitable;

### 6. Conclusion

The methodological decision support framework for the estimation of potential success and rank of new entity on new market has been given in this paper. The methodology is based on combination of two different approaches for sectors and entities performance assessment – the econometrics panel data model and the non-parametric DEA method. In the first stage, current conditions on the market and interaction between entities with historical data are analyzed, while, in the next stage, virtual input parameters and forecast virtual output parameters are set up. In the last stage, performance of new virtual entity is compared to the other existing entities on the market. As an example, banking market in Serbia has been used. Final results, together with sensitivity analysis, can help in making decision of entering on the market, the investments which would be most likely efficient and gain the optimal revenue and profit.

### Reference

- [1] Panzar, J. C. and Rosse, J. N., 1987. Testing for 'Monopoly' Equilibrium, *Journal of Industrial Economics* No.35(4),
- [2] Charnes, A., Cooper W.W., Rhodes E.L., "Measuring the Efficiency of Decision Making Units", *European Journal of Operational Research*, 2(6), 1978.
- [3] Andersen, P., Petersen N., "A Procedure for Ranking Efficient Units in Data Envelopment Analysis", *Management Science*, 39(10), 1993.
- [4] Berger, A. N, Humphrey D. B, "Efficiency of Financial Institutions: International Survey and Directions for Future Research", *European Journal of Operational Research*, 98(2), 1997, 175-212.
- [5] Fries, S., Taci A., "Cost Efficiency of Banks in Transition: Evidence From 289 Banks in 15 Post-Communist Countries", *Working Paper No. 86, European Bank for Reconstruction and Development*, 2004.
- [6] Guzowska M., Kisielewska M., Nellis J., Zarzecki D., "Efficiency of the Polish Banking Sector – Assessing the Impact of Transformation", *Data Envelopment Analysis and Performance Management*, editors: Emrouznejad A., Podinovski V., *Aston Business School, Aston University*, 2004, 163-170.

- [7] Havrylchyk, O., *Efficiency of Polish banking industry: Foreign versus domestic banks*, *Journal of Banking & Finance*, 30, 1975-1996, 2006.
- [8] Mercan, M. et al., *The effect of scale and mode of ownership on the financial performance of the Turkish banking sector: the results of a DEA-based analysis*, *Socio-Economic Planning Sciences* 37, 185-202. 2003.
- [9] Jemrić I., Vujčić B., "Efficiency of Banks in Croatia: A DEA Approach", *Working Papers W-7, Croatian National Bank*, 2002.
- [10] Mihajlovic N., Bulajic M., Savic G., *Ranking of banks in Serbia*, *Yugoslav journal of operational research* 2009-2, 323-334, 2009.
- [11] Panzar, J. C. and Rosse, J. N., 1982. *Structure, Conduct and Comparative Statistics*, Bell Laboratories Economics Discussion Paper
- [12] Shaffer, S., 1982. A nonstructural test for competition in financial markets, *Proceedings of a Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, pp. 225-243.
- [13] National bank of Serbia, 2010. Banking sector in Serbia, Report for the last quarter of 2009, [www.nbs.rs](http://www.nbs.rs)

## LOGISTIC IMPACT ON FOOD PRICE

**Dr. Malihe Shahidan** , Sheffield Business School, Sheffield, [S.Malihe@Shu.ac.uk](mailto:S.Malihe@Shu.ac.uk),  
**Dr. Mehrzad Netadj**, Mississippi State University, [Mehrzad.Netadj@ssrc.MsState.edu](mailto:Mehrzad.Netadj@ssrc.MsState.edu)

**Abstract:** The aim of this study is to find how oil price fluctuation effect on the price of food. The collected data from International Monetary Fund (IMF) indicates increase of oil per barrel has significantly influence the production and as a consequence the price of food has been affected in recent years. The importance of this research can be emphasized by Economic Research Service (ERS, 2010) at U.S. Department of Agriculture. ERS projects the deteriorating food security over the next 10 years, especially in by 2020 , will increase the number of food-insecure people in Sub-Saharan Africa (SSA) by more than 500 million out of a total population of roughly 1 billion.

Food and Agriculture Organization's (FAO) intergovernmental group predicted that the food crisis situation in 2011-12 and included oil factor as possible element of such crisis. Therefore, more research on food logistics can assist the FAO to take more effective decisions and adopt necessary strategic plans. For purpose of this research secondary data of 120 food and non food commodities have been collected and association of oil fluctuation and food prices were investigated.

**Keyword(s):** Supply Chain Management, Food Supply. Balanced Scorecard

### **Food consumption:**

The United Nation (UN) has predicted the increase of population from 2.5 bn in 1950 to 8.0 bn in 2025. This shows that the populations will increase 3.2 times by 2025 (UN). It means by 2025 there are 5.5 billions more people to feed and as a consequence there would be an increase demand for food as a long term trend. To feed this population there would be more pressure on resources. On addition the change of eating habits in China and increase of meat consumptions per capita from 20Kg in 1980 to 50 kg in 2007 is creating more food shortage. To produce 1 kg of beef there is need for 10,000-13,000 liters of water and for producing 1 Kg wheat there in need for 1000-2000 liters of water. As a result shortage of water as a resource can be another key issue for further investigation (FAO, 2011).

On addition to above the demand for Biofuel has increased and the use of coarse grains from 47m tones in 2005 has gone up to 80m tones in 2007 (9.2% increase) and it has been predicted that the use of vegetable oil as biofuel will be increased from 4m tones in 2005 to 21m tones in 2017 (FAO/OECD, 2011).

The World bank has predicted rising prices will improve the trade balance of major food exporters, but countries such as UK and most of European countries will be among the countries with moderate lost and some African countries are stand to see a greater deficit and have a worsening trade balance. The fluctuation on oil prices is not making the equation any easier and this research has investigated the impact of oil prices on food supply chain management.

*“Rising food and energy prices could push 5.3 million more people into poverty across Emerging Europe and Central Asia,” (Ahlers, T, 2011) “For most countries in the region growth returned in 2010, following sharp declines in 2008 and 2009. However, the region’s annual growth of around 4.5 percent was much lower than that of other regions in 2010, and projections for 2011–13 indicate only slightly stronger performance.”*

Forsyth (2010) indicated that 44 million more people were living below the World Bank’s poverty line by June 2010. The 10% to 30% increase on food price will add an additional 10 to 34 million people to that group who will not have enough income to feed themselves. However, year 2011 has already seen increase on crop prices. While wheat prices have risen by 69%, corn and soya have increased by 74% and 36% (World Bank statistics). These fluctuations had stronger impact on developing countries and countries such as Kyrgyz Republic has increase of 27% and Georgia 23%. The IMF and World Banks are planning to neutralize these trends by expanding agricultural sector and encouraging private sectors involvement. It is necessary to reduce the restrictions on food exports and also assisting developing countries to manage agricultural risks.

The ultimate objective would be to control fluctuation of food prices. An effective supply chain can reduce the risks involves for food-producing countries. To design appropriate SC model it is vital to identify number of key issues in effective Food Supply Chain Management (FSCM) and any association between fluctuation of fuel prices and food prices. Considering the above factors supply chain efficiency becomes more essential and to improve the performance of food supply chain a model should be introduced and adopted.

### **Supply Chain Management:**

Supply Chain Management (SCM) is increasingly becoming a key requirement of both domestic and international competitiveness. SCM is not a new concept, having originated in the early 1980s (Harland, 1996). It refers to the various processes and techniques brought into play to manage the flow of supplies through appropriate chains (Saunders, 1997). SCM involves the integration of processes from upstream (suppliers) to downstream (end user) and it will maximize the end-customer value (Lambert, et. al, 1998). Bowersox et. al (2002) suggested SCM as a "collaborative-based strategies to link inter- organizational business operations to achieve a shared market opportunity.”

The development of global brands, more complicated cost management and increasing ease of cross-border trading have put more emphasis on competitiveness within the supply chain (Chen, 1997). Thus, SCM should consist of internal business functions of purchasing, manufacturing, sales and distribution, and should be externalized beyond the boundary of the firm to manage operations across inter-organizational boundaries (Harland, 1996). A supply chain can be defined as a network of autonomous or semi-autonomous business entities which are responsible for procurement, manufacturing and distribution activities associated with one or more families to related products (Sadeh, 1996).

Today’s organizations are dealing with "supply network" and "parallel chains", both of which will require "synchronized supply chains". Many companies are taking advantage of advanced information and manufacturing technologies to better manage their supply chains

effectively. However, for food supply chain to adopt the most applicable supply chain strategy, it is necessary to categorize different countries Supply Network based on the level of complexity, innovation and uniqueness of production. Beamon and Ware (1998) suggested that emphasis on technology and process be the first to be considered. Regardless of the approach employed to achieve maximum supply chain efficiency, it is necessary that supplier and buyer establish a close working relationship (Chen, 1997) and that joint efforts be adopted to improve efficiency of operations and overall SC.

The close relationship of producer/consumer for today's volatile markets is no longer sufficient and all partners' involvement, awareness and motivation are elements which can play an important role in the success or failure of this process. Producer's and governments policies, behavior and goals can also affect the partner's motivation in general. Thus, the relative power of the participants is a key characteristic of the supply chain relationships (Lamming, 1993).

It is appropriate to refer the SCM as demand driven process, this requires continues relationships with end customer and supply chain partners should create value. To achieve that there is need for operation visibility, joint planning, exchange of information and appropriate forecasting with downstream partners (Kandemir, et al, 2006). Therefore, development of SCM is driven by factors such as globalization and technological changes (Sonia and Power, 2010). To match the growing power of consumers, businesses should focus on consumer demand and adjust their strategies with their demands. In order to match the consumer demands and have sustainable business the SCM should be demand driven and not capacity driven (Brown, 2011) and this is very challenging for businesses. To develop an accurate business demand pattern it is essential to combine together the process of forecasting and managing customer demands. This will create a pattern of demand that meets the operational and financial goals (Swinke et al, 2011). Collaboration of activities in downstream such as demand planning and forecasting can be considered as factors for overall performance (Closs and Savitskie, 2003) and requires innovative ideas with access to accurate information and technology. To assess the efficiency of supply chain a set of measurements should be identified and applied to food supply chain. There is need for identifying objectives, selecting appropriate measurements, have logical and achievable targets as well as being initiative.

For developing countries to become demand driven they need to have a clear prediction and forecasting as well as historical data. Kaplan and Norton (1996) implemented a Balanced Scorecard model which focus on financial, internal business process, learning and growth and customers objectives by measuring, identifying targets and initiatives to achieve their vision and strategies (see Fig 1).

### **Methodology:**

To assess and exam any association between fluctuation of oil prices and food price variations secondary data from The World Economic Outlook(WEO) databases which presents the International Monetary Fund (IMF) staff's analysis and projections of economic development at global level has been adopted. The data has been prepared by the Commodities Team of the Research Department and the Primary Commodity Prices are presented weekly, monthly, quarterly and annually in a table format. The prices are in nominal U.S dollars and based on period averages. Prices are not seasonally adjusted and are benchmark prices which are

representative of global market. The figures are determined by the largest exporter of a given commodity.

The indices and commodity grades, weight and sources were collected from the IMF. Data is up dated regularly in monthly bases and prices are projected for two years ahead. Commodity indexes were based on 2005 (average of 2005=100) (see fig 3). The data is calculated individual commodity price in US dollar and group indices are weighted based on averages of different commodities. It is possible to use World Bank Commodity indexes however; as the WBI's are designed to be representative of developing countries some commodities have weaker weight in WBI. There are different commodities in WBI which creates some different price movements in short term. The prices are updated retroactively and linked to the most recent few months. For those data with one or two months lag the estimation is used and later the estimation was replaced with actual/official data when it is available and consequently indices are change as their inputs are updated. Data and projections are based on 184 economies form the statistical basis for the WEO.

WEO has adopted a number of assumptions for their projections such as exchange rates are remained constant from February 8<sup>th</sup> and March 2011 apart from currencies are participating in European exchange rate. Also price of oil will be \$107.16 a barrel in 2011 and \$108.00 a barrel in 2012 and remain stable over six months. On addition the London Interbank offered rate on US deposits will average 0.6 percent and 0.9 percent in 2011 and 2012 consecutively. Clearly the projections are based on statistical information available through the March.

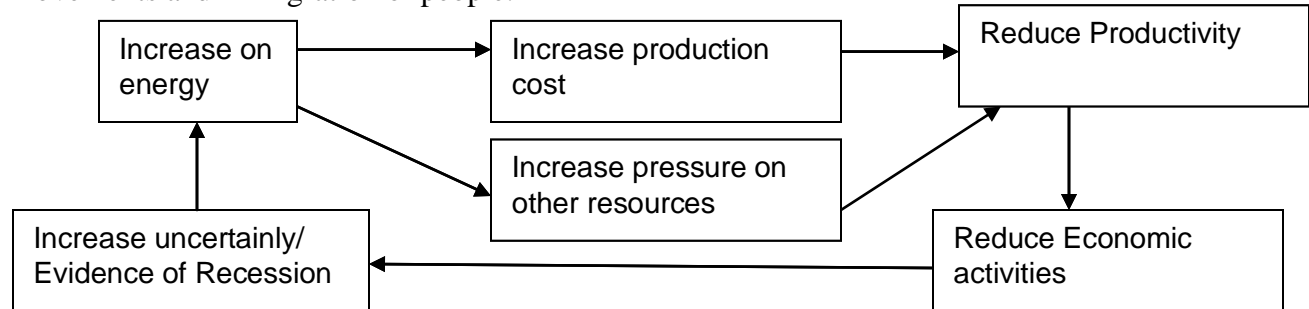
Literature review supported a list of key issues which can be considered as crucial to produce and deliver the right food and sustain consumer satisfaction and reduce the total cost with demand driven supply. The balanced scorecard model is focusing on financial, Customer, internal processes and learning and Growth perspectives. Model below is adopting Kaplan and Norton (1996) model and use it on improving food supply chain (see fig 2).

Department of Agriculture (USA) estimated in 2010 China and India produce 195,200 (1000 MT) and consum 191,235 (1000 MT) Wheat. A report by the Organisation for Economic Cooperation and Development (OECD) and the Food and Agriculture Organisation (FAO)(2011) stated that the commodity prices should be decreased from high prices in early 2011 however, commodities such as meat (30%) cereals (20%) will increase over 2011-2020 (Gray N, 2011). On the other hand it is expected the farm outputs to rise by 1.7% annually in contrast with 2.6% growth of past decade. The above report also predicted that price of agricultural commodities will remain high during next ten years and that makes it more problematic to achieve the global food security goals and creates higher risk for consumer's undernourishment.

*“While higher prices are generally good news for farmers, the impact on the poor in developing countries who spend a high proportion of their income on food can be devastating,”* said Angel Gurría secretary-general of the OECD. It has been requested by Secretary general of the OECD suggests that governments should create physical and financial market transparency with better information systems to enhance the productivity of developing countries. To reduce the uncertainty and control risk for vulnerable countries, removal of production and trading policies would be important. The rise of production cost is slowing down the productivity. Increase on costs of energy, animal food creates more pressure on use of resources such as land and water. Having an efficient supply chain model can assist farmers and food producers to survive and

manage the cost of production. To improve the efficiency governments need to move the production to less developed regions with variation on weather and fertility level.

The model below demonstrates the impact of increase of energy cost on uncertainty which creates un-stability, lack of trust for productivity and investment as well as large population movements and immigration of people:



Therefore, control of energy prices can be considered as an important element of the equation. A number of commodities were investigated and association of their price variation and oil prices were examined. The figures below demonstrate correlation between oil price and different commodities:

Coffee (0.902), Cocoa(0.655), Tea (0.678), Barely (0.836), Rice (0.802), Wheat (0.826), Banana (0.653), Oranges (0.742), Beef (0.675), Poltery (0.723), Lamb (0.450), Pork (0.428), Fish(0.809), Shrimp (-0.625), Sugar(0.627), Olive oil (0.293) , Sunflower (0.741), Soyabean oil (0.875) , Cotton (0.511), Hard logs(0.769), Maize (0.802), Rubber (0.818), Gold (0.76), Silver (0.80), Aluminum (0.835), Iron (0.611) , DAP Fertilizer (0.861).

The above figures clearly demonstrate strong positive correlation between price of oil and different commodities (see fig 4). This supports the fact that increase on oil price will cause the increase on food price and therefore design of a supply chain model which is eliminating waste and reducing the total cost will have impact on prices. The analysis of data also demonstrates increase on 120 commeditiy prices with 2005 as an index. Clearly prices are increasing and there are evidences of drop in 2008 in comparision with 2005 and since then there has been upward pattern. To control the price producer needs to reduce the finished product costs and this requires activities related to supplier costs, raw material costs and delivery costs. From customer point of view lead time for order and distribution can play an important role. The control should not have negative impact on delivery reliability or performance.

To reduce the cost and have effective SC model, producers should have an effective planning schedule and set of measurements for quality of their products. Like any other supply chain, flexibility and response to delivery are other important elements. Cost of production cannot be controlled unless, the internal processes such as order cycle time, cost of inventory, delivery procedures and selection/training of suppliers considered effectively. An appropriate procedure enhances the process and creates a zero defects with elimination of waste within the whole supply chain. Producers cannot do everything independently but in partnership. There is need for sharing information and resources with other partners of supply chain and learn from each other and grow faster. Undoubtedly, role and size of oil producers can play an important role in policies and decisions. An Empirical study (Moawia. A, 2010) supported the fact that the policy-maker of a small oil-producing country can reduce/prevent the food prices increases by



increasing oil production. In contrast, large oil-producing countries are price makers and therefore they can reduce the oil price. Similar research (Esmaeili, A, Shokoohi.Z, 2010) investigated the relationship between oil and food prices. Esmaeili and Shokoohi (2010) identified the increase of oil prices due to political instability in some of major oil producing countries and increase on demand of China and India and other developing countries (Movil (2004), Hamilton, (2009). While Zhang et al (2010) identify no direct long-run relationship between oil and commodity prices, Gohin and Chantret (2010) and Chen et al. (2010) confirmed a positive relationship between crude oil prices and food. This requires more investigation on oil price and agricultural product prices and food security.

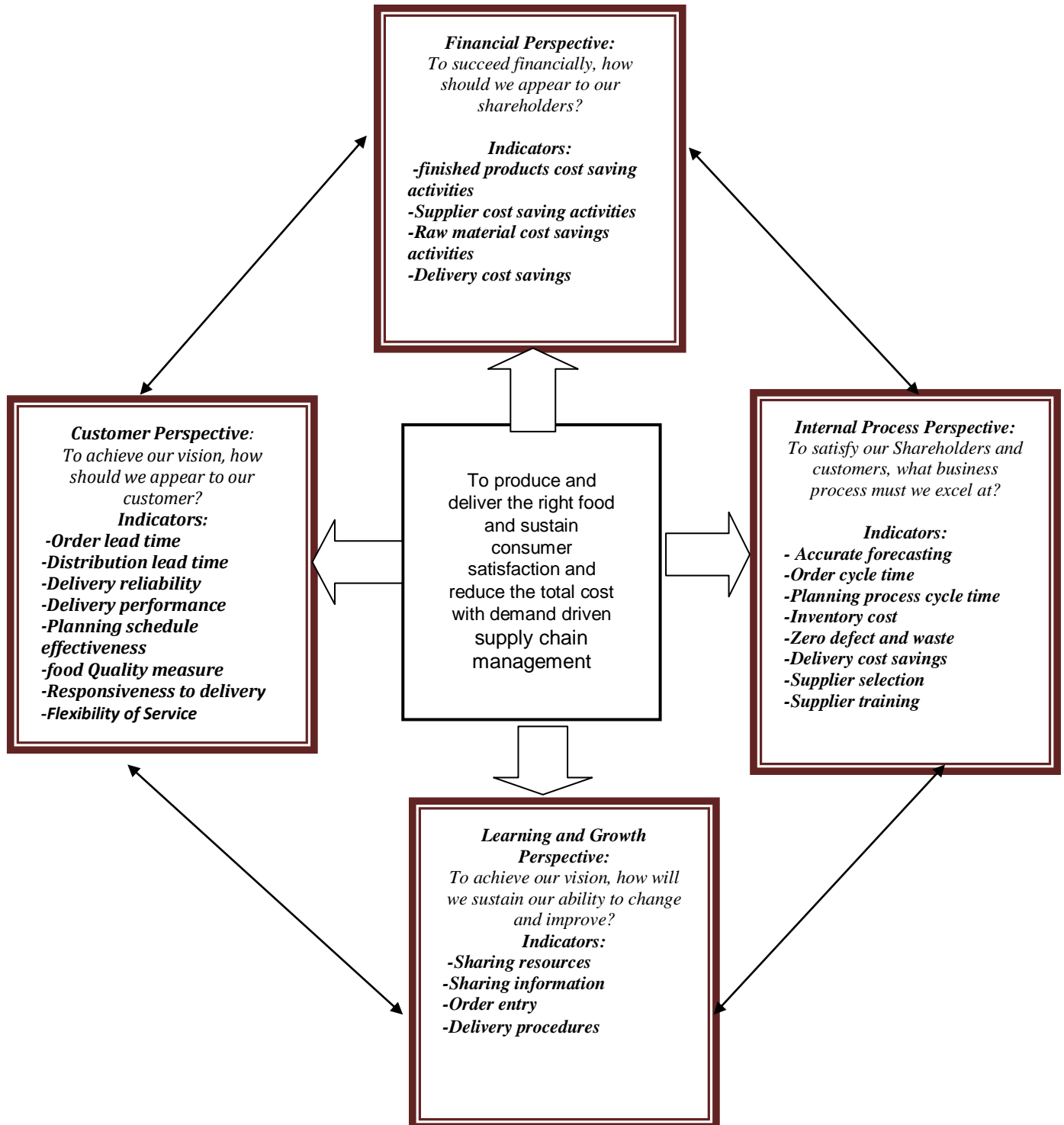
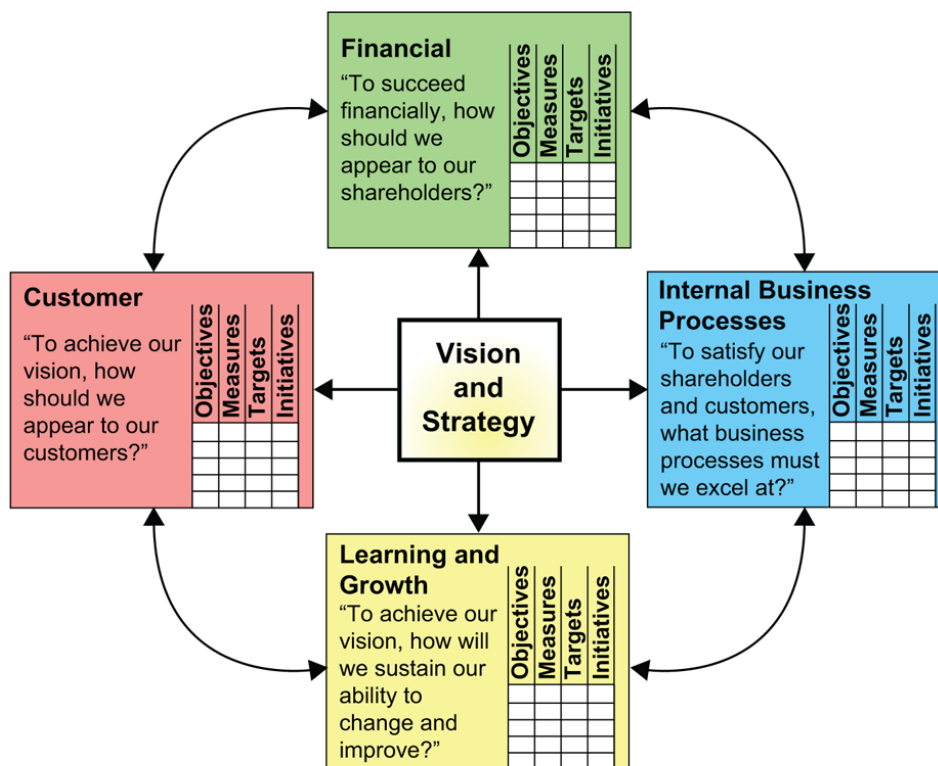


Figure 2: Adopted from Kaplan and Norton (1996) ,Balanced Scorecard for food supply chain

**Conclusion:**

There are number of direct and indirect key factors which can have impact on food price. This research identified strong association between oil price and fluctuation of food prices. Effective demand driven SCM reduces the cost of production and sustain level of poverty. These keys can be measured and investigated from financial perspective, Internal processes, learning and growth and customer perspective. This creates stability in consumer/supplier relationship which causes more trust and less movement and immigration. This research attempted to validate the BSC model developed, but not to investigate its implementation in real cases. A further task is thus to apply the resulting model on a wide sample of food producers, to test its suitability of adoption in larger scale.

**Appendix**



Source: Kaplan and Norton (1996)

Figure1: Balanced Scorecard model

Adapted from Robert S. Kaplan and David P. Norton, "Using the Balanced Scorecard as a Strategic Management System," Harvard Business Review (January-February 1996): 76.

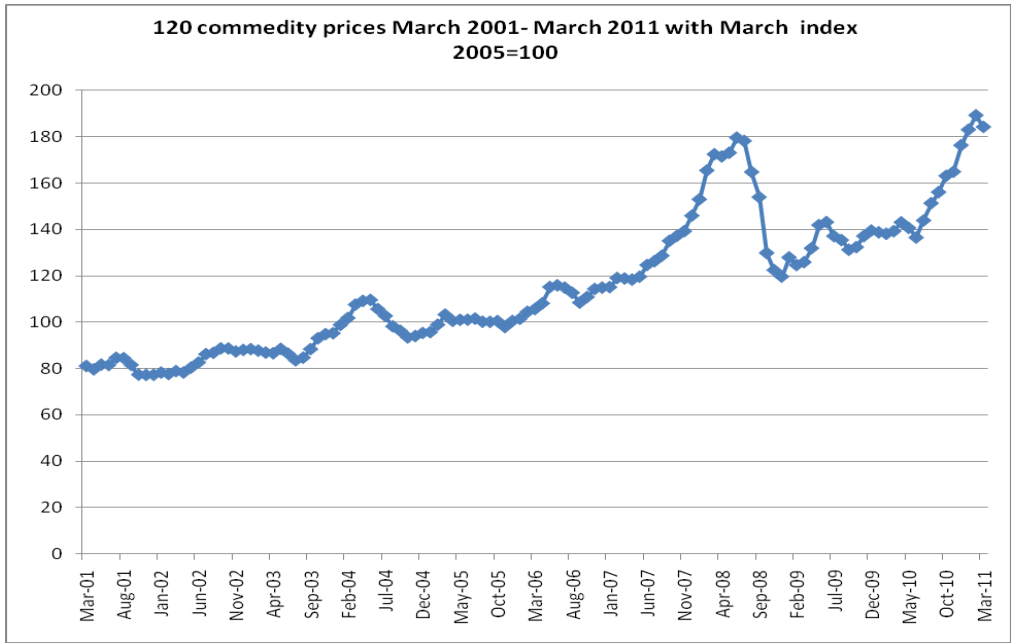


Fig 3: Commodity price index, Source: International Monetary Fund ,2011

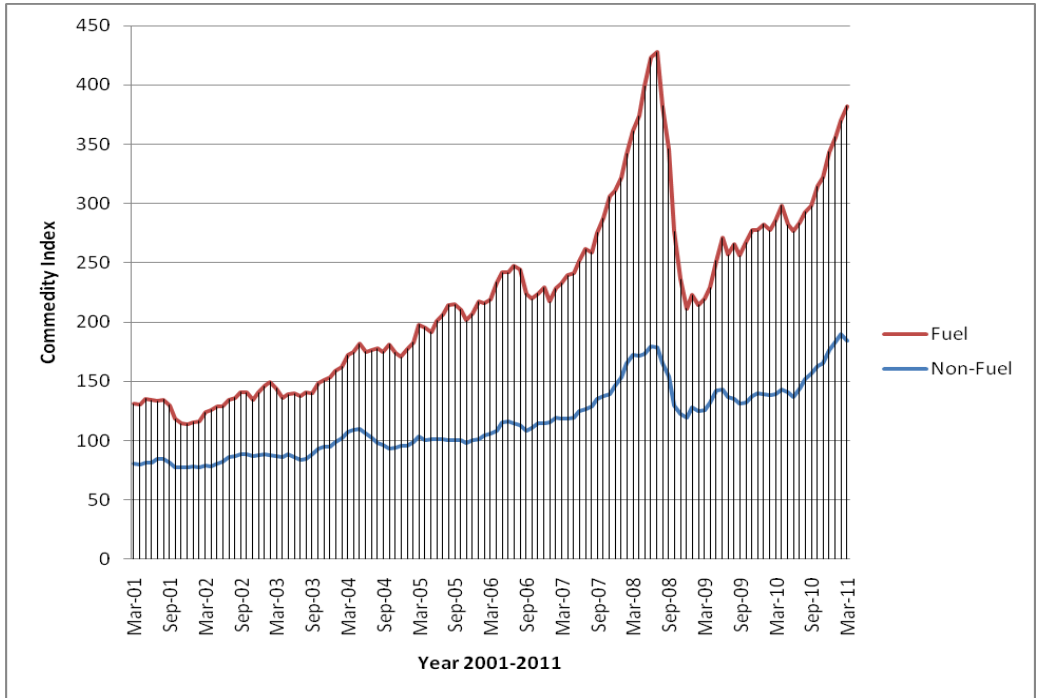


FIGURE 4: ASSOCIATION OF COMMODITIES AND FUEL/NON FUEL 2001-2011  
SOURCE: INTERNATIONAL MONETARY FUND

## References:

- Ahlers, T. (2011) World Bank's Europe and Central Asia region meeting.
- Alghalith, M. The interaction between food prices and oil prices, *Energy Economics Journal*, Volume 32, Iss.6, November 2010, pp. 1520-1522.
- Beamon. B.M, and Ware.T.M, A process quality model for the analysis improvement and control of supply chain systems: *International Journal of Physical Distribution and Logistics Management*, Vol. 28, No 9/10, 1998, pp. 704-715.
- Bowersox, D.J., Closs, D.J., Cooper, M.B. (2002), *SUPPLY CHAIN LOGISTICS MANAGEMENT*, McGraw Hill/Irwin, New York, NY,
- Browne, J. (2010), *Beyond Business/John Browne with philippa Anderson*, London: Weodemfeld and Nicolson.
- Chen, Jack, Achieving maximum supply chain efficiency, *Journal: IIE, Solutions* Vol: 29 Iss: 6 Date: Jun 1997 p: 30-35
- Chen. ST, Kuo. H. I, Chen.C.C, Modeling the relationship between the oil price and global food prices, *Applied Energy* 87 (2010), pp. 2517–2525.
- Christopher.M, Towill.D.R (2000), "Supply Chain migration from lean and functional to agile and customized", *Supply Chain management, An international Journal*, Volume 5 number 4, 2000, pp. 206-213, (Eds.) Grunwald and Fortuin, 1992, "Many steps towards zero inventory". *European Journal of Operational Research*, 59, 359-69.
- Closs, , D.J., Savitskie, K. (2003), "Internal and external logistics information technology integration". *International Journal of Logistics Management*, Vol. 14, pp. 63-76.
- Esmaeili.A, Shokoohi.Z, Assessing the effect of oil price on world food prices: Application of principal component analysis, 2010,
- Forsyth. K, 2011, *Diplomatic Courier*, IMF and World Bank Working Together to Tackle Fluctuating Food Prices
- Gohin.A, Chantret.F, The long-run impact of energy prices on world agricultural markets: the role of macro-economic linkages, *Energy Policy* 38 (2010), pp. 333–339
- Hamilton. J.D, Understanding crude oil prices, *Energy Journal* 30 (2009), pp. 179–206.
- Harland, C.M, Supply Chain Management: Relationship Chains and Networks. *British Journal of management*, 1996, Vol. 7, Special issue 63-80
- Kandemir, D., Yaprak, A., Cavusgil, S.T. (2006), "Alliance orientation: conceptualization, measurement, and impact on market performance", *JOURNAL OF THE ACADEMY OF MARKETING SCIENCE*, Vol. 34 No.3, pp.324-40

Kaplan, R. & Norton, D. (1996). *The balanced scorecard*. Harvard Business Press.

Lambert, D.M., Cooper, M.B., Pagh, J.D. (1998), "Supply chain management: implementation issues and research opportunities", *INTERNATIONAL JOURNAL OF LOGISTICS MANAGEMENT*, Vol. 9 No.2, pp.1-19.

Lamming, R, beyond partnership. *Strategies for innovation and Lean Supply*, 1993, New York, Prentice Hall

Lamming.R, Johnsen.T.J, Zheng, R and Harland. C, An Initial Classification of Supply networks, 2000, *International Journal of Operations and Production Management*, Vol. 20, No. 6, 2000, pp. 657-691.

Movil, E., 2004. A report in energy trends, greenhouse gas emissions and alternative energy. Cites in (Esmaeili.A, Shokoohi.Z, Assessing the effect of oil price on world food prices: Application of principal component analysis, 2010).

Sadeh, M, A Multi-Agent Framework for Modeling Supply Chain dynamics, Graduate School of Industrial Administration and The Robotics Institute Carnegie Mellon University, Pittsburgh, PA-15213, 1996.

Saunders.M, *Strategic Purchasing and supply chain management*, 1997, London, Pitman Publishing.

Slack.N, Chambers.S, Harland.C, Harrison.A, Johnston.R, 1998 ,*"Operations Management"*, Pitman.

Sonia M. Lo, Power. D, An empirical investigation of the relationship between product nature and supply chain strategy. *An International Journal of Supply chain management*, 2010, volume 15, 2, pp. 139-153

Swink, M. Melnyk. S,A, Cooper. M, B, Hartley. J, (2011), *Managing Operations across the Supply Chain*, McGraw-Hill Irwin, International Ed.

Visited Sites:

<http://www.foodsecurity.ac.uk/issue/uk.html#refs>

# THE INFLUENCE OF TQM ON EMPLOYEES' WORK-RELATED ATTITUDES AND BEHAVIOR

**Vera Silva Carlos**<sup>1</sup>

University of Beira Interior (NECE Research Center)  
[verasilvacarlos@gmail.com](mailto:verasilvacarlos@gmail.com)

**Luís Lourenço**

University of Beira Interior  
Business and Economics Department (NECE Research Center<sup>2</sup>)  
[lourenco@ubi.pt](mailto:lourenco@ubi.pt)

**Luís Mendes**

University of Beira Interior  
Business and Economics Department (CEFAGE – UBI Research Center)  
[lmendes@ubi.pt](mailto:lmendes@ubi.pt)

## ABSTRACT

The aim of this study is to confirm the findings of the existing literature, which suggest that the adoption of principles of Total Quality Management (TQM) is associated with more favorable attitudes from people in the organizations. In this way, we used a questionnaire, to evaluate the attitudes of 82 faculty members at higher education Institutions. To assess the concern of higher education institution with the practices of TQM, we used a 0-1 variable to distinguish institutions that have certified services, from those that do not have. After analyzing and discussing the results we describe the findings, the study limitations and we suggest some perspectives for future research.

**Key words:** Total Quality Management, Higher Education, Attitudes, Behavior.

## 1. INTRODUCTION

According to Morrow (1997) and Sommer and Merrit (1994), the adoption of TQM is associated with more favorable work-related attitudes. In this perspective, the main purpose of this study is to evaluate the existing relationships between the concerns with TQM practice and some work attitudes, and it consists of an attempt to answer the following question: is it

---

<sup>1</sup> PhD. Student

<sup>2</sup> Research supported by: Programa de Financiamento Plurianual das Unidades de I&D da FCT – Fundação para a Ciência e Tecnologia, Ministério da Ciência, Tecnologia e Ensino Superior.

possible that the organizations' concerns with the TQM practice may have a positive effect on the workers attitudes and behaviors?

It seems appropriate to evaluate these relationships within the framework of higher education, since higher education institutions are characterized as establishments which provide services to the community, specifically the economic transfer of the scientific and technological knowledge, which are autonomous (self-sufficient) and should comply with the codes of good management practice<sup>3</sup>. Considering that the workers' positive attitudes are associated, direct or indirectly, with a raise in productivity (Kinicki e Kreitner, 2006; Podsakoff e MacKenzie, 1997; Podsakoff e MacKenzie, 1997), the confirmation of the positive impact of TQM on the workers' attitudes seems essential to higher education institutions. This study may allow higher education institutions to begin a greater effort towards the adoption of TQM principles, which seems particularly important due to the changes that occurred with the introduction of the Bologna Process<sup>2</sup> in the educational system, as well as for the general uncertainty that is being felt worldwide, nowadays.

On the other hand, no other study carried out in the framework of higher education, which evaluates these relationships, has been found, neither any research that analyzes the relationship between TQM and individual performance. Thus, this study may contribute to stress the importance of these relationships in the organizational context, particularly in what higher institutions are concerned.

Firstly, in order to better understand the concepts that are being studied, these concepts are briefly summarized. Then, a research model, which is based on 9 hypotheses, is proposed. After explaining and stating the hypotheses, the methodology is described and the results are presented and discussed. Finally, we describe the findings, the limitations of the study are explained and some guiding lines for future research are suggested.

The methods used to analyze the results are the *t-student* test, the linear regression and the correlation. It is possible to conclude that TQM influences the organizational commitment (OC) and the organizational citizenship behaviors (OCB), but not the individual performance (IP). TQM influences, although moderately, the relationship between OCB and IP. OC influences the OCB and the OCB influences IP.

---

<sup>3</sup> Diário da República, 1.ª série, N.º 174 de 10 de Setembro de 2007, Decreto-Lei n.º 62/2007 (2007). Legal status for higher education institutions. Accessed on the 24th May, 2010, on [http://www.igf.min-financas.pt/inflegal/bd\\_igf/bd\\_legis\\_geral/Leg\\_geral\\_docs/LEI\\_062\\_2007.htm](http://www.igf.min-financas.pt/inflegal/bd_igf/bd_legis_geral/Leg_geral_docs/LEI_062_2007.htm).

## 2. TOTAL QUALITY MANAGEMENT

“*Quality is vital*” (Sangeeta, Banwet e Karunes, 2008) and it can be used to achieve a higher productivity (Leonard and Sasser, 1982) and competitive advantages (Leonard and Sasser, 1982; Kanji, 1990; Chenhall, 1997; Reed, Lemak and Mero, 2000; Hoyer and Hoyer, 2001; Dale, Van Der Wiele and Van Iwaarden, 2007).

The understanding of the ‘quality’ concept is made easier by the differentiation of the following concepts: quality, total quality and total quality management. In Kanji (1990) perspective, ‘quality’ refers to the continuing satisfaction of the requirements expected by client, while total quality concerns getting quality at a low cost. On the other hand, TQM refers to getting total quality through the daily involvement and commitment of all people.

Nowadays, ISO 9000 standards are the system used to guarantee the consumers that the quality of products/services matches their requirements (Dale, 2003). This set of standards represents the international consensus on the management and quality practice. More specifically, the ISO standards are characterized as patterns and orientations related to the systems of Quality Management<sup>4</sup>.

Total Quality Management is one of the major phases of the evolution of Quality Management systems (preceded by the inspection, quality control and quality certification) (Dale, Van Der Wiele and Van Iwaarden, 2007), and it is characterized as a continuously evolving management system (Andersson, Eriksson and Tortensson, 2006).

The concept of TQM is defined as “*everyone’s mutual cooperation, in an organization, and the associated business processes, to produce valuable products and services that will match and, preferably, exceed the consumers’ needs*” (Dale, Van Der Wiele and Van Iwaarden, 2007: 4). Mcadam and Mckeown (1999) state that TQM consists of a process of individual and organizational change, that aims at increasing the level of satisfaction of all the stakeholders of the organization.

area number of some factors that determine the success of TQM: top management commitment (Powell, 1995; Boaden, 1996; Ruggieri and Merli, 1998; Agus, 2001; Dayton, 2001; Mellahi and Eyuboglu; 2001; Beer, 2003; Silaf and Ebrahimpour, 2003; Taylor and

---

<sup>4</sup> ISO standards definition - International Organization for Standardization. Accessed on the 11th June, 2011, on [http://www.iso.org/iso/iso\\_9000\\_essentials](http://www.iso.org/iso/iso_9000_essentials)



Wright, 2003; Chowdhury, Paul and Das, 2007; Prajogo and Cooper, 2010), leadership skills (Beer, 2003; Silaf and Ebrahimpour, 2003), client focus (Boaden, 1996; Ruggieri and Merli, 1998; Silaf and Ebrahimpour, 2003), an open culture (Powell, 1995; Ruggieri and Merli, 1998; Beer, 2003; Silaf and Ebrahimpour, 2003), education and training (Ruggieri and Merli, 1998; Silaf and Ebrahimpour, 2003; Prajogo and Cooper, 2010), worker's commitment and involvement (Boaden, 1996; Ruggieri and Merli, 1998; Silaf and Ebrahimpour, 2003; Bou and Beltrán, 2005; Prajogo and Cooper, 2010), team work (Silaf and Ebrahimpour, 2003; Prajogo and Cooper, 2010), benchmarking (Ruggieri and Merli, 1998; Silaf and Ebrahimpour, 2003) and worker's empowerment (Powell, 1995; Silaf and Ebrahimpour, 2003; Prajogo and Cooper, 2010).

As consequences of TQM, the following aspects have been identified:

1. An increase in OC (Sommer and Merritt, 1994; Guimaraes, 1996; Allen and Brady, 2006; Karia and Asaari, 2006);
2. An increase in the OCBs (Sommer e Merritt, 1994);
3. An improvement on the organizational performance (Chenhall, 1997; Samson and Terziovski, 1999; Awan *et al.*, 2008; Kurupparachchi and Perera, 2010).

### **3. ATTITUDES AT WORK**

#### *3.1. Organizational commitment (OC)*

Meyer and Herscovitch (2001) argue that the OC definitions, presented in the literature, have two common aspects: (1) commitment consists of a force of connection – a psychological or attitude stage, (2) commitment determines a direction at the level of the individual's behavior.

From the previous definitions of OC, Allen and Meyer (1990) created a commitment model, according to which the concept is composed of three dimensions: (1) *affective*, which consists of a connection, identification and involvement with the organization; (2) *continuance*, referring to the commitment based on the cost that the individual associates with leaving the organization and (3) *normative*, related to the feelings of obligation to stay in the organization.

The perspective that will be adopted in this research is the one proposed by Cook and Wall (1980), who defend that the OC refers to the affective reactions to the characteristics of the

employer organization. It is related to the worker's feelings of connection with the goals and values of the organization; to the role that he adopts in relation to them and to the connection with the organization with the aim of benefitting it, and not just for its instrumental value. Since this is a positive result of the experience of quality work, the concept can be considered a contributing factor to the well-being at work.

### *3.2 Organizational Citizenship Behavior (OCB)*

The OCBs are defined as 'extra-role' behaviors (Rego, 2002). The concept has different origins: (1) in Barnard's proposal (1938), according to which, the workers' will to cooperate is indispensable for the organization, (2) in the Katz and Khan (1970, 1974, 1987) distinctions in behavioral typologies facing the organizations, (3) in Organ's essay, which states that people can adopt a cooperative behavior in order to respond reciprocally to the work experiences that provide satisfaction, as opposed to the behaviors inherent to the role, which depend on certain restrictions. Based on Organ's work (1977), Bateman and Organ (1983) measured this new kind of performance. From then on, several definitions and dimensions were proposed for the concept (Williams and Anderson, 1991; Graham, 1991; Van Dyne, Graham and Dienesch, 1994; Organ and Moorman, 1993; Konovsky and Organ, 1996; Podsakoff *et al.*, 2000).

According to Rego (2002) and González and Garazo (2006), there are five dimensions of OCBs that are more frequently used, which is in agreement with the literature:

(1) *Altruism* (Podsakoff, MacKenzie and Fetter, 1993; Organ and Lingl, 1995; Konovsky and Organ, 1996; Podsakoff and Mackenzie, 1997; Rego, Ribeiro and Cunha, 2009) – that is defined as 'helping behavior' (Lo and Ramayah, 2009);

(2) *Civic Virtue* (Podsakoff, MacKenzie and Fetter, 1993; Organ and Lingl, 1995; Konovsky and Organ, 1996; Podsakoff and Mackenzie, 1997; Rego, Ribeiro and Cunha, 2010) – the responsibility of the subordinates to participate in the life of the organization (Podsakoff *et al.*, 2000);

(3) *Sportsmanship* (Podsakoff, MacKenzie and Fetter, 1993; Organ and Lingl, 1995; Konovsky and Organ, 1996; Podsakoff and Mackenzie, 1997; Rego, Ribeiro and Cunha, 2009) – behavior of warmly tolerating unavoidable irritations. Workers will assume new responsibilities and learn (Podsakoff and MacKenzie, 1997);

(4) *Conscientiousness* (Podsakoff, MacKenzie and Fetter, 1993; Rego, Ribeiro and Cunha, 2010) – based on how organized, hardworking and responsible the worker is (Lo and Ramayah, 2009);

(5) *Courtesy* (Organ and Lingl, 1995; Konovsky and Organ, 1996; Rego, Ribeiro and Cunha, 2009) – related to the prevention of problems at the work place (Lo and Ramayah, 2009).

Lo e Ramayah (2009) adopted Organ's conceptualization, according to which the OCBs are 'extra-role' behaviors that arise as a way of acting beyond what is defined by work requirements, which means that the workers do non-mandatory tasks without expecting any rewards or recognition. The authors developed an instrument which contained the five dimensions more frequently found in literature, as it was mentioned before. The perspective of OCB adopted by these authors will be the one used in this study.

### 3.3. *Individual Performance (IP)*

As there is a relationship between TQM and the organizational performance (Chenhall, 1997; Samson and Terziovski, 1999; Awan *et al.*, 2008; Kurupparachchi and Perera, 2010), a relationship between TQM and IP is also predicted to exist.

Viswesvaran (2001) defines IP as behaviors that can be evaluated, but he points out that the difference between behaviors and results is not clear, since IP is composed of several behavioral manifestations, that are identifiable only through operational measures and that differ depending on the context in which they are applied.

In agreement with the theory of social capital, according to which the organizational theories focused on costs and on human capital are not adequate to respond to rapid changes on the nature of work, on the organizational structures and on the inter-organizational competitiveness (Dess and Shaw, 2001), an worker, fundamental for the organization, may be recognized for his/her capacity to have a high organizational performance, as well as for his/her capacity to create value for the organization. In this way, the fundamental workers are those who have an influence on the other workers, who have knowledge and whose performance is characterized by the following aspects: (1) Skills to deal with organizational networks; (2) Skills to transmit organizational memory; (3) Flexible confidence; (4) Skills to energetically act in a team; (5) Influence in the performance chain/net; (6) Difficulty in being replaced; (7) Innovation traits (Xiaowei, 2006).

#### 4. RESEARCH MODEL: TQM AND WORK ATTITUDES

In this study, we assume that higher education institutions that have certified services reveal higher concerns about TQM. For that reason TQM is measured through a 0-1 variable (0 not certified; 1 certified). More specifically, the higher education institutions considered as certified are the ones that have three or more certified services.

In the opinion of Sommer and Merritt (1994) and Guimaraes (1996), the introduction of TQM programs in the organizations positively influences the workers' commitment. Karia and Asaari (2006) argue that the TQM practices, specifically training, education, empowerment, team work, prevention of problems and continued improvement, positively influence the workers' commitment. Thus, the following hypothesis is proposed.

*H1: TQM is significantly related to OCB.*

According to Sommer and Merritt (1994), the introduction of TQM in the organizations has a positive impact on OCB. Based on the authors previously mentioned, the second research hypothesis is formulated.

*H2: TQM is significantly related to OCB.*

TQM practices are related to an increase in the organizational performance, particularly in terms of operational performance, that also have an influence in getting the competitive advantages (Samson and Terziovski, 1999; Kurupparachchi and Perera, 2010). These competitive advantages can be seen in terms of financial performance (Chenhall, 1997; Awan *et al.*, 2008), and other performance dimensions such as: client's satisfaction, workers' morals/moods, productivity, output quality and its delivery (Samson e Terziovski, 1999). Due to the fact that TQM positively influences the organizations' performances and as education and training is one of the determining factors for TQM success (Ruggieri and Merli, 1998; Silaf and Ebrahimpour, 2003; Prajogo and Cooper, 2010), an impact of TQM on IP is also supposed to exist. Based on this association, hypothesis three is proposed.

*H3: TQM is significantly related to IP.*

According to Donovan, Brown, and Mowen (2004), commitment has a positive impact on the OCB, specifically on the 'altruism' dimension. Lavelle *et al.* (2008) also investigated the

relationship between OC and OCB and concluded that the affective commitment has an impact on OCB, characterized by the authors as the participation in meetings or events related to the organization. These studies allow the formulation of the following hypothesis:

*H4: OC is significantly related to OCB.*

The fundamental goal of this study is to investigate the effect that TQM has on OC, on OCB and on IP. Moreover, we intend to evaluate the relationships among OC, OCB and IP. However, it will also be important to know whether TQM has any impact on the relationship between OC and OCB. Thus, we formulate the following hypothesis:

*H4a: TQM mediates the relationship between OC and OCB.*

Samad (2005) found a positive impact of the commitment on the performance. The author adopts the perspective of Mowday *et al.* (1982), in which OC is defined as (1) the belief in the organization and the acceptance of its values and goals, (2) the will to make an effort to the well being of the organization and (3) the will/wish to stay in the organization. Locke, Latham and Erez (1988) argue that the strength of this relationship will depend on the amount of variance in the commitment. According to Meyer *et al.* (2002) commitment has an impact on performance, being this impact positive for to the affective and normative commitment, and negative for the continued commitment. In an attempt to assert these studies we propose H5.

*H5: OC is significantly related to IP.*

As it was referred to before, the major objective of this study is to investigate the effect that TQM has on OC, on OCB and on IP. Furthermore, it will also be important to know whether TQM has any influence on the relationship between OC and IP. Thus, we formulate the following hypothesis:

*H5a: TQM mediates the relationship between OCB and IP.*

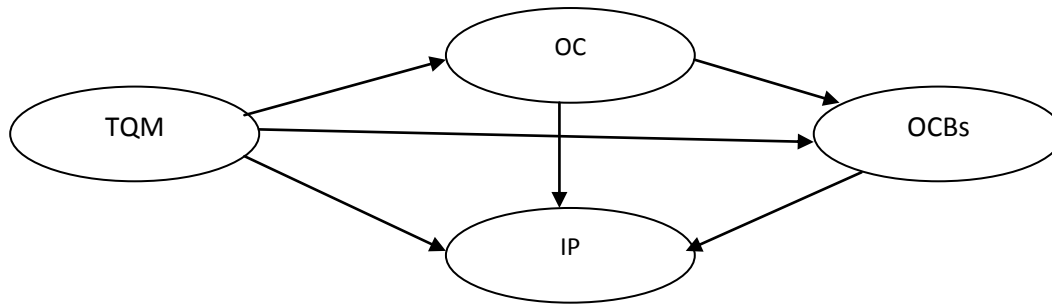
Following Podsakoff and MacKenzie (1997), there is a positive relation between OCB, in the perspective as helping behaviors, and the effectiveness of the organizations. Consequently a relationship between the OCB and IP is supposed to exist and the following hypothesis is formulated:

*H6: OCB is significantly related to IP.*

It seems pertinent to evaluate also if TQM has any impact on the relationship between OCB and IP. Thus, way we propose the following hypothesis.

H6a: *TQM mediates the relationship between OCB and IP.*

The Hypotheses can be summarily represented by the research model in Figure 1



**Fig. 1 – Research Model**

## **5. METHODOLOGY**

### *5.1. Sample and data collection*

This research, descriptive in nature and quantitative, is carried out through the deductive method (Ciribelli, 2003) and is based on a model that tries to relate the following variables: Total Quality Management (TQM), Organizational Commitment (OC), Organizational Citizenship Behaviors (OCB's) and Individual Performance (IP).

According to the Diário da República, 1.<sup>a</sup> series, N<sup>o</sup> 174, 10th September, 2007, Law n. 62/2007, article 4th, the higher education system in Portugal includes (1) the public higher education system, constituted by the institutions belonging to the State, (2) the private higher education system, composed of institutions belonging to private and cooperative entities.

According to article 5, the higher education institutions integrate (1) the university institutions incorporate the universities and the non-integrated university institutions, (2) the polytechnic

institutes, incorporating the polytechnic institutes and the non-integrated polytechnic institutes<sup>5</sup>.

Following the information of the National Institute of Statistics<sup>6</sup>, updated on the 31<sup>st</sup> May, 2007, the number of Professors in higher education was 37,281, both in the in the public sector (26,098) and in the private sector (11,183). The sample in this study is composed by 82 Professors belonging to 19 higher education institutions.´

Three instruments were gathered on 7 points *Likert* type scale, where 1 means ‘completely disagree’ and 7 means ‘completely agree’. This scale allows a wide appreciation of the worker’s perception about the variables under study. It was necessary to validate the instruments for the Portuguese population by translating them into Portuguese and convert them back into English. The second translations were compared to the original instruments and some mistakes corrected. Because we were dealing with higher education institutions, it was necessary to substitute the expressions ‘firm’ and ‘organization’ for the expression ‘teaching institution’, or just ‘institution’. A pre-test was given to 6 individuals, which led to the need to make some changes. After these changes were made, the questionnaires were revised. Then, the final questionnaire, divided in three parts, was made available online and all the Portuguese higher education institutions, public and private<sup>7</sup>, were requested, via e-mail, to invite the Professors to participate in this study.

An Internet research was also carried out in order to assess the (in)existence of certified services in the higher education institutions that participated in the study.

## 5.2 *Development on measures and scales*

### 5.2.1 *Total Quality Management (TQM)*

It is assumed here that ISO9000 certified organizations show particular concern with continuous improvement and quality. Consequently, as it was said before, TQM is here assessed through a 0-1 variable for non certified and certified Institutions. An Internet

---

<sup>5</sup> Diário da República, 1.ª série, N.º 174 de 10 de Setembro de 2007, Lei n.º 62/2007 (2007). Legal status for higher education institutions. Accessed on the 24<sup>th</sup> May, 2010, on [http://www.igf.min-financas.pt/inflegal/bd\\_igf/bd\\_legis\\_geral/Leg\\_geral\\_docs/LEI\\_062\\_2007.htm](http://www.igf.min-financas.pt/inflegal/bd_igf/bd_legis_geral/Leg_geral_docs/LEI_062_2007.htm)

<sup>6</sup> Indicators of the teaching staff of higher Education in Portugal. Accessed on the 24th May, 2010, on [http://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine\\_indicadores&indOcorrCod=0000887&contexto=pi&selTab=tab0](http://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0000887&contexto=pi&selTab=tab0)

<sup>7</sup> Listings of higher education institutions. Accessed on the 23rd April, 2010, on <http://www.dges.mctes.pt/DGES/pt/Estudantes/Rede/Ensino%20Superior/Estabelecimentos/Rede%20P%C3%BAblica/>

research was carried out in order to assess the (in)existence of certified services in the higher education institutions that participated in the study, and it was verified that there are 7 out of the 19 participating institutions with, at least, three certified services.

For the purpose of this study, those with more than three certified services and/or Schools were considered certified Institutions.

#### *5.2.2. Organizational Commitment (OC)*

This measure, developed by Cook and Wall (1980), describes in general worker's commitment towards the organization he/she works for. It has nine items three of them measuring the identification with the organization, other three the involvement with the organization and, the remaining, loyalty. Three of the items are written in the negative form and their score was reversed later for statistic analysis purposes.

#### *5.2.3. Organizational Citizenship Behavior (OCB)*

The scale used to evaluate the OCB was developed by Lo and Ramayah (2009). The instrument is composed of 20 items, which describe five dimensions of the OCB: (1) civic virtue, (2) conscientiousness, (3) altruism, (4) courtesy and (5) sportsmanship. Four of the items were withdrawn from the scale by the authors, since they did not apply to the cultural context in which they used the instrument. However, those items were used in this study.

#### *5.2.4. Individual Performace (IP)*

In this study, the concept of 'individual performance' is measured using the performance traits that characterize the worker. Xiaowei (2006) developed a self-assessment measure of the performance traits, based on the revision of other authors' work. Seven dimensions were considered: the relationship among organizational networks (3 items), the transmission of organizational memory (2 items), trust (4 items), group synergy (2 items), chain influence on performance (2 items), difficulty in substituting (2 items) and innovation traits (3 items). On the whole the measure is made up of 18 items.

Apart from the use of three scales to assess these variables, the respondents were requested to provide further information, such as age, gender and academic formation.

### *5.3 Data analysis methods*

To analyze the results we used the statistical package *SPSS*, version 18.0.



In this study, among other objectives, we intend to verify whether the means, for each variable, are statistically different depending on the existence of concerns with TQM from the higher education institutions.

In this case, the method used was the *t-student* test, for independent samples, which makes it possible to test whether the means of two populations are significantly different (Maroco, 2007).

Linear regression was also used. It is defined as a group of statistics used to study relationships among variables and how the behavior of a dependent variable can be predicted/explained by a set of independent ones (Maroco, 2007). This method was used to study the relationships when the independent variables were not solely 0-1 variables.

Correlation was also used for data analysis purposes. The correlation coefficient (*r*) is used to measure the linear force relationship between two variables. A value ‘*r*’ close to ‘0’ implies little or no correlation between the variables (McClave, Benson and Sincich, 2008).

## 6. FINDINGS AND DISCUSSION

### 6.1. Assessing variables’ internal consistency

Cronbach’s alpha allows us to analyze the internal consistency of a measure and provides a sub-estimate of the real credibility of the analyzed instrument (Maroco e Garcia- Marques, 2006). As can be seen on table 1 the alpha values of Cronbach for the scale that measures the OC and the OCB are relatively high. However, the value for the scale of IP is somewhat low.

Scale	Cronbach’s alpha	Number of items
OC	,878	9
OCB	,826	20
IP	,584	18

Table 1 – Cronbach’s alphas

### 6.2. TQM and Employees’ work related attitudes and behavior

According to the data on table 2, the mean value of commitment is higher for certified institutions. In relation to the OCB, we can see that the means are a little higher for

institutions that show concerns with TQM. Nevertheless, the difference in the means of IP is somewhat low.

	TQM	N	Mean
OC	No	52	4,7764
	Yes	32	5,3043
OCB	No	52	5,6991
	Yes	32	5,9706
IP	No	52	4,6584
	Yes	32	4,7887

**Table 2 – Mean Values**

As shown on Table 3, for the Levene’s test, *Sig. is always igher than 0.05*. Consequently, at a level of significance of 5%, the hypothesis of homochedasticity cannot be rejected. Thus, the test statistic to be used is the one that assumes equal variances. It is possible to check, regarding the variable ‘OC’, that *p-value = 0.048 < 0.05*, so we reject  $H_0$ , which means that there is a significant statistical difference between the means for institutions that show concerns with TQM and the ones that don’t. For the variable ‘OCB’, *p-value = 0.017 < 0.05*, so  $H_0$  is also rejected, which means that the difference between the means of the institutions that show concerns with TQM and the means of ones that don’t is statistically significant. For the variable ‘IP’, *p-value = 0.224 > 0.05*, and so  $H_0$  is not rejected, which means there is no significant difference between the means for the institutions that show concerns with TQM and the means for the ones that don’t.

		Levene’s test for equality of variances		T test for equality of means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. Error difference
OC	Equal variances assumed	,783	,379	-2,005	82	,048	-,52781	,26330
	Equal variances not assumed			-2,054	70,865	,044	-,52781	,25697
OCB	Equal variances assumed	1,915	,170	-2,444	82	,017	-,27141	,11103
	Equal variances not assumed			-2,622	79,066	,010	-,27141	,10350
IP	Equal variances assumed	1,385	,243	-1,174	82	,244	-,13027	,11092
	Equal variances not assumed			-1,235	75,920	,221	-,13027	,10547

**Table 3 – Student T-test results**

The results described above allow the corroboration of H1, H2 and the rejection of H3. TQM influences the OC, the OCB, but not the IP.

As to what H1 is concerned, the results agree with the conclusions of Sommer and Merritt (1994) and of Guimaraes (1996), according to which TQM programs in the organizations influence positively the workers’ commitment. Karia and Asaari (2006) argue that TQM practices, specifically training, education, *empowerment*, team work, prevention of problems and continuing improvement, influence positively the workers’ commitment.

Hypothesis 2 was supported, corroborating the results obtained by Sommer and Merritt (1994), which defend that the introduction of TQM programs in the organizations leads to an increase in workers' OCBs.

H3 was rejected, which means that the concerns with TQM do not have sig influence individual performance.

### 6.3. Linear regression

Next, we will analyze the influence of commitment in the Professors' OCB and the influence that TQM has in this relationship.

As  $R^2 = 0.197$ , we can say that only 19.7% of the total variability in y (OCB) is "explained" by the independent variables.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4,225	3	1,408	6,528	,001 <sup>a</sup>
	Residual	17,260	80	,216		
	Total	21,486	83			

a. Independent variables: (Constant), TQM X OC, OC, TQM  
b. Dependent variable: OCB

**Table 4 – Anova results for regression model 1**

As shown on Table 4, we can see that the  $p\text{-value} = 0.001 < \alpha = 0.05$ . It is possible to assume that the model is significant. This means that there is a significant relationship between OCB and, at least, one of the independent variables.

Using the results shown on Table 5 we can study this relationship. Through the analysis of the standardized coefficients, we can verify that the variable 'OC' presents a greater relative contribution to explain the behavior of 'OCB'. Moreover, it is possible to concluded that there is a significant relationship between the OC and the OCB ( $p\text{-value} < \alpha = 0.05$ ). These results corroborate H4, as well as the ones obtained by Donovan, Brown, and Mowen (2004) and by Lavelle *et al.* (2008), that is, the workers committed to the organization show higher OCB.

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5,014	,264		19,012	,000
	OC	,143	,054	,336	2,678	,009
	TQM	-,002	,489	-,002	-,003	,997
	TQM X OC	,037	,093	,196	,400	,690

a. Dependent variable: OCB

**Table 5 – Coefficients for model 1**

Data on table 5 also show that TQM, as well as the interaction between OC and TQM, are not significant. So, it is safe to conclude that the relationship between commitment and OCB is not affected by TQM, which leads to the rejection of H4a.

Next, the influence of the OC and the OCB on the Professors' IP and the influence of TQM on the two proposed relationships will be analyzed.

As  $R^2 = 0.351$ , we can affirm that 35.1% of the total variability in y (IP) is "explained" by independent variables.

The anova results for the regression are shown on table 6. Since  $p\text{-value} = 0.000 < \alpha = 0.05$ , it is possible to assume that the model is significant. This means that there is a significant relationship between IP and, at least, one of the independent variables.

Model	Sum of Squares	df	Mean Square	F	Sig.
2 Regression	7,125	5	1,425	8,422	,000 <sup>a</sup>
Residual	13,197	78	,169		
Total	20,321	83			

a. Independent variable: (Constant), TQM X OCB, OC, OCB, TQM X OC, TQM  
b. Dependent variable: Individual performance (IP)

**Table 6 – Anova results for regression model 2**

Based on the results shown on table 7, we can see that there is no significant relationship between OC and IP, which goes against the existing literature (Locke, Latham and Erez, 1988; Samad, 2005; Meyer *et. al.*, 2002). These results may be due to the fact that the OC perspectives used by the authors of the studies previously referred are different from the OC approach used in this study. On the other hand, the variable 'OCB' significantly affects IP ( $p\text{-value} < \alpha = 0.05$ ). These results support H6 and allow us to reject H5. This means that the fact that workers show high levels of OC doesn't mean that they show a high IP. On the other hand, the workers with high levels of OCB also show a high IP.

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1,411	,609		2,318	,023
2 OC	-,079	,050	-,190	-1,571	,120
OCB	,636	,112	,654	5,672	,000
TQM	1,338	1,274	1,322	1,050	,297
TQM X OC	,214	,092	1,157	2,321	,023
TQM X OCB	-,414	,239	-2,451	-1,733	,087

a. Dependent variable: Individual performance (IP)

**Table 7 – Coefficients for model 2**

Regarding the effect of TQM on the relationship, based on Table 7, we can say that TQM is not significant. The interaction between OC and TQM is significant at 5% level. The interaction between OCB and TQM is significant at 10% level (Sig. = 0.087 > 0.1). In practical terms, this means that the “constant” of the regression is not affected by TQM. On the other hand TQM affects moderately the relationship between the OCB and the IP. Since we concluded that there is no relationship between OC and IP, the significance of the interaction has no meaning here..

These results corroborate H6a and allow us to reject H5a.

#### 6.4. Correlation-based Analysis

		OC	OCB	IP	TQM
<b>OC</b>	Pearson correlation	1	<b>,404**</b>	-,049	<b>,254*</b>
	Sig. (2-tailed)		,000	,657	,018
	N	86	84	86	86
<b>OCB</b>	Pearson correlation	<b>,404**</b>	1	<b>,421**</b>	<b>,261*</b>
	Sig. (2-tailed)	,000		,000	,017
	N	84	84	84	84
<b>IP</b>	Pearson correlation	-,049	<b>,421**</b>	1	,060
	Sig. (2-tailed)	,657	,000		,580
	N	86	84	86	86
<b>TQM</b>	Pearson correlation	,254*	<b>,261*</b>	,060	1
	Sig. (2-tailed)	,018	,017	,580	
	N	86	84	86	86

\*\* . Correlation is significant at 0.01 level (2-tailed).

\* . Correlation is significant at 0.05 level (2-tailed).

**Table 8 - Correlations among variables**

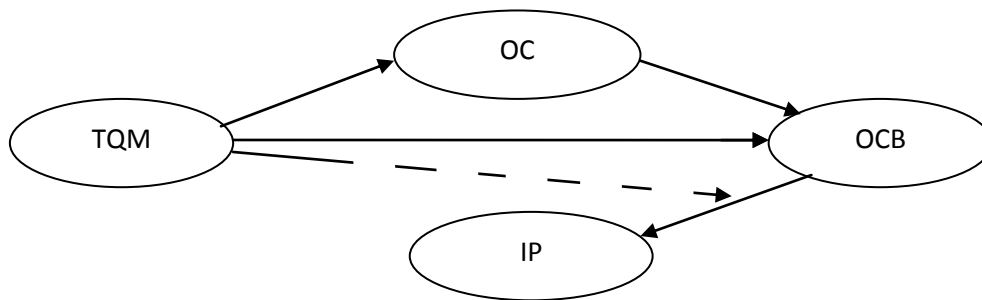
The positive values indicate a positive linear correlation – when X increases Y also increases – and the negative values indicate a negative linear relationship – when X increases and Y decreases (McClave, Benson and Sincich, 2008). It is possible to verify that there are positive correlations between TQM and commitment (0.254) and TQM and OCB (0.261), although they present very low values, and between commitment and OCB (0.404) and OCB and performance (0.421), that present low values.

The results show that there is an influence of the TQM on the workers' OC and OCB, but there isn't any relationship of dependence between TQM and IP. The results allow, then, to verify that, in the higher education institutions that show concerns with TQM there are more committed workers who show more OCBs, compared to the institutions that do not show any concerns with TQM.

When it comes to the relationships among the attitudes of the Professors in Higher Education, it is possible to conclude that the OC has an impact on OCB, but not on the IP, and that the OCB have an impact on the Professors' performance.

It was also possible to verify that TQM influences the relationship between OCB and IP, which means that the workers who show higher OCB have a higher performance, and that this relationship is also influenced by the concerns that the institutions demonstrate regarding TQM.

As a consequence we can, summarily, present these results through the revised model in Figure 2.



**Figure 2- Final model**

## 7. CONCLUSIONS

Although the relationship of dependence between TQM and IP hasn't been confirmed, it is adequate to say that results obtained corroborate the literature, according to which the adoption of the principles of TQM is associated with more favorable attitudes regarding work, particularly in what the workers' OC and OCBs is concerned. It matters to mention that it was found only one author that refers to the influence of TQM on the OCBs, and so, this study emerges as a great contribute both to the organizations, and the literature.

The relationship found between OC and OCB confirms studies previously carried out, which permits to highlight the importance of this relationship in the organizational context. Besides, the fact that the existence of influence of OCB on IP has already been verified is of great importance, since no studies that assess this relationship have been found. However, the

relationship between OC and IP, previously proved in other studies, didn't emerge in this research, which may be linked to the instrument used to gather data or, maybe, to the context.

It was also possible to assert that TQM influences the relationship between OCB and the IP, which means that workers who show more OCBs have a higher performance, and that this relationship is also influenced by the concerns that the higher education institutions show regarding TQM. This highlights the importance of TQM in the improvement of workers' performance.

## **8. LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH**

One of the limitations of this study is related to how the concerns with TQM were measured. Nevertheless, only one of the institutions that participated is fully certified.

Another limitation is the sample size. In the future, it would be important to replicate this study using a larger sample.

Considering the current worldwide crisis, as well as the relatively recent introduction of the Bologna Process in Higher Education, it will be possible, in the future, to obtain different results from the ones found in this study. For that reason it would be important to replicate this study in a later moment.

This study might also be replicated using other instruments to measure the variables, particularly regarding the IP, since Cronbach's alpha value for this instrument is low, which may have conditioned the results.

On the other hand, this study may be enlarged, by adding new variables, relevant to the organizations, such as motivation or job satisfaction.

It would be pertinent to evaluate the proposed relationships in higher education institutions in different countries, as well as and in service firms, so that it would be possible to verify whether the relationships are also found in different contexts.

## BIBLIOGRAPHY

- Agus, A. (2001). A linear structural modeling of Total Quality: management practices in manufacturing companies in Malaysia. *Total Quality Management*, 12 (5), 561-573.
- Alcobia, P. (2001). Atitudes e satisfação no trabalho. In J. M. Ferreira, J. Neves e A. Caetano. *Manual de psicossociologia das organizações*. Lisboa: McGraw-Hill.
- Allen, M. W. & Brady, R. M. (2006). Communication in the Transition to Self-Directed Work Teams. *Journal of Business Communication*, 43 (4), 295-321.
- Allen, N. & Meyer, P. (1990). Organizational socialization tactics: a longitudinal analysis of links to newcomers' commitment and role orientation. *Academy of Management Journal*, 33 (4), 1-18.
- Andersson, R., Eriksson, H. & Torstensson, H. (2006). Similarities and differences between TQM, six sigma and lean. *The TQM Magazine*, 15 (5), 282-296.
- Awan, H. M., Bhatti, M. I., Bukhari, K. & Qureshi, M. A. (2008). Critical Success Factors of TQM: Impact on Business Performance of Manufacturing Sector in Pakistan. *International Journal of Business & Management Science*, 1 (2), 187-203.
- Barnard, C. (1938). *The functions of the executive* (2nd ed.). United States of America: Harvard University Press.
- Bateman, T. & Organ, D. (1983). Job satisfaction and the good soldier: the relationship between affect and employee 'citizenship'. *Academy of Management Journal*, 26 (4), 587-595.
- Beer, M. (2003). Why Total Quality Management programs do not persist: the role of management quality and implications for leading a TQM transformation. *Decision Sciences*, 34 (4), 623-641.
- Boaden, R. J. (1996). Is total quality management really unique?. *Total Quality Management*. 7 (5), 553-570.
- Bou, J. C. & Beltrán, I. (2005). Total Quality Management, high-commitment Human Resource strategy and firm performance: an empirical study. *Total Quality Management*, 16 (1), 71-86.
- Ciribelli, M. (2003). *Como realizar uma dissertação de mestrado através da pesquisa científica*. Rio de Janeiro: Viveiros de Castro Editora.
- Chenhall, R. H. (1997). Reliance on manufacturing performance measures, total quality management and organizational performance. *Management Accounting Research*, 8 (2), 187-206.
- Chowdhury, M., Paul, H. & Das, H. (2007). The impact of top management commitment on Total Quality Management practice: an exploratory study in the Thai Garment. *Global Journal of Flexible Systems Management*, 8 (1/2), 17-29.
- Cook, J. & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfillment. *Journal of Occupational Psychology*, 53, 39-52.
- Dale, B. G., Van Der Wiele, T. & Van Iwaarden, J. (2007). "TQM: an overview" in Dale, B. G., Van Der Wiele, T. e Van Iwaarden, J., *Managing Quality*. Oxford: Wiley Blackwell, 5th ed., 3-38.
- Dayton, N. A. (2001). Total quality management critical success factors, a comparison: The UK versus the USA. *Total Quality Management*, 12 (3), 293-298.
- Dess, G. & Shaw, J. (2001). Voluntary turnover, social capital and organizational performance. *Academy of Management Review*, 26 (3), 446-456.
- Donavan, D., Brown, T. & Mowen, J. (2004). Internal Benefits of Service-Worker Customer Orientation: Job Satisfaction, Commitment, and Organizational Citizenship Behaviors. *Journal of Marketing*, 68 (1), 128-146.
- González, J. e Garazo, T. (2006). Structural relationships between organizational service orientation, contact employee job satisfaction and citizenship behavior. *International Journal of Service Industry Management*, 17 (1), 23-50.
- Graham, J. (1991). An essay on organizational citizenship behavior. *Employee Responsibilities and Rights Journal*, 4 (4), 249-270.
- Guimaraes, T. (1996). TQM's impact on employee attitudes. *The TQM Magazine*, 8 (1), 20.
- Hoyer, R. W. e Hoyer, B. B. (2001). What is quality?. *Quality Progress*, 34 (7), 52-62.



- Judge, T., Parker, S., Colbert, A., Heller, D. & Remus, I. (2001). Job satisfaction: a cross-cultural review. In N., Anderson, D., Ones, H., Sinangil, e C. Viswesvaran, (Eds.) *Handbook of Industrial, Work and Organizational Psychology (Volume 2, Chapter 2)*, London: Sage Publications.
- Kanji, G. K. (1990). Total quality management: the second industrial revolution. *Total Quality Management*, 1 (1), 3-12.
- Karia, N. & Asaari, M. H. (2006). The effects of total quality management practices on employees' work-related attitudes. *The TQM Magazine*, 18 (1), 30-43.
- Katz, D. & Kahn, R. (1970, 1974, 1987). *Psicologia social das organizações* (3ª ed.). São Paulo: Editora Atlas.
- Kinicki, A. & Kreitner, R. (2006). *Comportamento Organizacional*. São Paulo: McGraw-Hill.
- Konovsky, M. & Organ, D. (1996). Dispositional and contextual determinants of organizational citizenship behavior. *Journal of Organizational Behavior*, 17 (3), 253-266.
- Kurupparachchi, D. & Perera, H. S. (2010). Impact of TQM and Technology Management on Operations Performance. *Journal of Operations Management*, 9 (3), 23-47.
- Leonard, F. S. e Sasser, W. E. (1982). The incline of quality. *Harvard Business Review*, 60 (5), 163-171.
- Lo, M.-C. & Ramayah, T. (2009). Dimensionality of organizational citizenship behavior (OCB) in a multicultural society: the case of Malaysia. *International Business Research*, 2(1), 48-55.
- Locke, E., Latham, G. & Erez, M. (1988). The determinants of goal commitment. *Academy of Management Review*, 13 (1), 23-39.
- Maroco, J. (2007). *Análise Estatística com utilização do SPSS* (3ª ed.). Lisboa: Edições Sílabo.
- Maroco, J. e Garcia-Marques, T. (2006). Qual a fiabilidade do alfa de Cronbach? Questões antigas e soluções modernas?. *Laboratório de Psicologia*, 4 (1), 65-90.
- Mcadam, R. & Mckeown, M. (1999). Life after ISO 9000: An analysis of the impact of ISO 9000 and total quality management on small businesses in Northern Ireland. *Total Quality Management*, 10 (2), 229-241.
- McClave, J., Benson, P. G. & Sincich, T. (2008). *Statistics for business and economics* (10th ed.). New Jersey: Pearson Education.
- Mellahi, K. & Eyuboglu, F. Critical factors for successful total quality management implementation in Turkey: evidence from the banking sector. *Total Quality Management*. 12 (6), 745- 756.
- Meyer, J. & Herscovitch, L. (2001). Commitment in the workplace: toward a general model. *Human Resource Management Review*, 11 (3), 299-326.
- Meyer, P., Stanley, D., Herscovitch, L. & Topolnytsky, L. (2002). Affective, Continuance, and Normative Commitment to the Organization: A Meta-analysis of Antecedents, Correlates, and Consequences. *Journal of Vocational Behavior*, 61 (1), 20-52.
- Morrow, P. C. (1997). The measurement of TQM principles and work-related outcomes. *Journal of Organizational Behavior*, 18 (4), 363-376.
- Organ, D. (1977). A reappraisal and reinterpretation of the satisfaction-causes-performance hypothesis. *Academy of Management Review*, 2 (1), 46-53.
- Organ, D. & Lingl, A. (1995). Personality, satisfaction and organizational citizenship behaviors. *The Journal of Social Psychology*, 135 (3), 339-250.
- Organ, D. & Moorman, R. (1993). Fairness and Organizational Citizenship Behavior: What Are the Connections?. *Social Justice Research*, 6 (1), 5-18.
- Powell, T. C. (1995). Total Quality Management as competitive advantage: a review and empirical study. *Strategic Management Journal*, (16) 15-37.
- Prajogo, D. I. (2010). The effect of people-related TQM practices on job satisfaction: a hierarchical model. *Production Planning & Control*, 21 (1), 26-35.
- Podsakoff, P. & MacKenzie, S. (1997). Impact of Organizational Citizenship Behavior on organizational performance: a review and suggestions for future research. *Human Performance*, 10 (2), 133-151.
- Podsakoff, P., MacKenzie, S. & Fetter (1993). Citizenship behavior and fairness in organizations: issues and directions for future research. *Employee Responsibilities and Rights Journal*, 6 (3), 257-269.

- Podsakoff, P., MacKenzie, S., Paine, J. & Bachrach, D. (2000). Organizational Citizenship Behaviors: A Critical Review of the Theoretical and Empirical Literature and Suggestions for Future Research. *Journal of Management*, 26 (3), 513-563.
- Rego, A. (2002). *Comportamentos de cidadania nas organizações*. Lisboa: McGraw-Hill.
- Rego, A., Ribeiro, N. & Cunha, M. (2010). Perceptions of Organizational Virtuousness and Happiness as Predictors of Organizational Citizenship Behaviors. *Journal of Business Ethics*, 93 (1), 215-235.
- Reed, R., Lemak, D. J. & Mero, N. P. (2000). Total quality management and sustainable competitive advantage. *Journal of Quality Management*, 5 (1), 5-26.
- Ruggieri, A. & Merli, R. (1998). Critical factors for the implementation of total quality management in Italy: an empirical analysis. *Total Quality Management*. 9 (4/5), 210-212.
- Samad, S. (2005). Unraveling the organizational commitment and job performance relationship: exploring the moderating effect of job satisfaction. *The Business Review*, 4 (2), 79-84.
- Samson, D. & Terziovski, M. (1999). The relationship between total quality management practices and operational performance. *Journal of Operations Management*, 17 (4), 393-409.
- Sangeeta, S., Banwet, D. K. e Karunes, S. (2008). An integrated framework of indices for quality management in education: a faculty perspective. *The TQM Journal*, 20 (5), 502-519.
- Silaf, I. & Ebrahimpor, M. (2003). Examination and comparison of the critical factors of total quality management (TQM) across countries. *International Journal of Production Research*, 41 (1), 235-268.
- Sommer, S. & Merritt, D. E. (1994). The impact of a TQM intervention on workplace attitudes in a health-care organization. *Journal of Organizational Change Management*, 7(2), 53-62.
- Taylor, W. A. & Wright, G. H. (2003). The impact of senior managers' commitment on the success of TQM programmes: An empirical study. *International Journal of Manpower*, 24 (5), 535-550.
- Van Dyne, L., Graham, J. & Dienesch, R. (1994). Organizational citizenship behavior: construct redefinition, measurement and validation. *Academy of Management Journal*, 37 (4), 765-802.
- Viswesvaran, C. (2001). Assessment of individual job performance: a review of the past century and a look ahead. In N. Anderson, D. Ones, H. Sinangil e C. Viswesvaran (Eds.). *Handbook of Industrial, Work and Organizational Psychology* (Vol. 1, Cap. 6, pp.110-126). London: SAGE Publications.
- Williams, L. & Anderson, S. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17 (3), 601-617.
- Xiaowei, L. (2006). A test on the systematic fuzzy measures of the key degree for the core employees' performance traits. *Canadian Social Science*, 2 (5), 38-43.

# **“Public Sector Assessment by Mapping Organisational Creativity”**

SILVA Marisa; MANO Margarida; SARAIVA Pedro Andrade

**Abstract:** Although assessment in the public sector can be considered as a practice for organisational development, institutions live a difficult balance between the *pros* of using in-depth benchmark or managerial transparency tools and the *cons* of being judged based on rankings that necessarily simplify organisational complexity.

Within the public sector context and the organisational creativity domain, we discuss the interest of having composite institutional indicators or multidimensional classification instruments.

Rather than disregarding or restraining diversity, we intend to develop a conceptual framework that allows to have a snapshot of organisational creativity profiles on the public sector, allowing to better understand improvement opportunities and use diversity as a positive driving force.

**Key-words:** transparency tools; benchmarking; multidimensional model; public sector; organisational creativity

# TOWARDS AN ESTIMATE OF ADVERSE EVENTS IN HEALTHCARE IN SLOVENIA: CHALLENGES IN IMPLEMENTING A NATIONAL SURVEY

**Biserka Simčič**, Division for Quality and Safety in Health Care, Ministry of Health of the Republic of Slovenia, biserka.simcic@gov.si

**Mircha Poldrugovac**, Division for Quality and Safety in Health Care, Ministry of Health of the Republic of Slovenia, mircha.poldrugovac@gov.si

## ABSTRACT

Objective and quantifiable data on the frequency and type of adverse events is a key factor in raising awareness of the issue, particularly among healthcare workers, and thus supporting a sense of urgency towards action in this field. The Ministry of Health of the Republic of Slovenia has been working with the World Health Organization and the WHO Office in Slovenia in order to promote the implementation of such a study. Nine hospitals and both clinical centres agreed to participate.

In January 2011 a workshop was led by experts from WHO in order to train investigators in the technique of assessing adverse events according to one of the methodologies outlined in the WHO publication mentioned above. According to this methodology the frequency and type of adverse events is assessed through the review of records of current inpatients and interviews with staff. In order to increase the objectivity of the study it is crucial that qualified reviewers examine records outside of their own institutions.

Key challenges for the successful implementation of the survey are a positive attitude of all involved, particularly health workers and institutional providers, and the establishment of the appropriate formal framework for the conduct of the study.

## INTRODUCTION

Patient safety has been recognized as fundamental to medicine since its inception. At the same time the understanding of patient safety in recent decades has changed radically, to the extent that some authors refer to it as the „new quality movement“ (1). The maxim „*primum non nocere*“ (first do no harm) is taught to medical students as a fundamental principle of medical ethics even today. While its origin is uncertain, the imperative to do no harm is part of the Hippocratic Oath and thus dates back at least to Greek times. The principle is an instruction on how to behave aimed at individual doctors. The idea of individual responsibility is fundamental to the organization of society today and permeates the healthcare area as well.

This principle is most evident in Slovenia in the legal framework in which healthcare professionals work, that is common to most countries in Europe and around the world. The principle of doing no harm has translated in a duty of professionals to behave according to more or less explicit professional standards. The Supreme Court in Slovenia has recognized two sources of harm to the patient: errors and complications (2). Errors are made by health professionals, who fail to act in accordance with the expected professionals standards. Complications are defined as harm that may be a direct consequence of the underlying disease or the consequence of the care received. In any case it occurs in a certain percentage of cases despite health professionals behaving according to the expected standards. Such a view of patient safety is in evident contrast with the one, adopted within the new quality movement.

## PATIENT SAFETY: THE CHANGE IN PERSPECTIVE

It is difficult to pinpoint the beginning of the new quality movement. Certainly the most striking leap

forward has been made with the publication by the Institute of Medicine in the United States of the report "To Err is Human" (3). The publication estimated that every year between 44.000 and 98.000 people are killed by what were then called medical errors. The report shook public opinion and professionals alike and significantly intensified the public discussion about safety in healthcare, putting it at the top of the agenda not just in the United States but internationally. Interestingly the report draws its estimate from two papers, the Utah/Colorado Study (4) and the Harvard Medical Practice Study (5), that were already published, the latter dating back to 1991. The authors of this paper believe that the lessons to be learned from this experience is that concrete data, based on sound scientific methodology, is necessary to draw the attention of the scientific community, while at the same time recognizing the value of such data and presenting them in the proper context is the other indispensable element to gain the general public attention and redirect resources to the issue.

Through the past decade a number of studies on the frequency of adverse events have been published, exploring the situation in different countries. Among the most notable are the studies done in Australia, Denmark, UK and recently Sweden (6,7). All of those came to similar conclusions regarding the frequency of such events, a fact that has also been recognized in the Recommendation of the Council of the EU from the 9<sup>th</sup> June 2009 on patient safety, including the prevention and control of healthcare associated infections (8). The latter estimates that between 8% and 12% of patients admitted to hospital experience an adverse event while receiving healthcare.

The new quality movement has been invaluable not only in placing patient safety at the top of the agenda, but also in changing the perspective on it. As it has been pointed out above, traditionally harm to the patient was either attributed to the failure of a healthcare professional or deemed inevitable. Drawing from lessons learned in the aviation industry, it has been recognized, that healthcare systems are much more complex than such a view implies. If a patient does not receive the expected health care, the failure may be preventable and yet not attributable to one single mistake by a professional. Recognizing the role of system designs in the prevention of adverse event has triggered the establishment of adverse event reporting systems in many countries. The purpose of those systems is to investigate such events in order to adapt the system, through protocols, instructions, organizational changes etc., and make them fail safe as much as possible.

This change in perspective on patient safety implies a change in culture from one which looks for mistakes made by individuals, to one that looks at systems, seeks the cooperation of all those involved and is thus necessarily of a non-blameful nature.

## PATIENT SAFETY IN SLOVENIA

In Slovenia a national adverse event reporting system was established in 2002. The reporting system was modelled on the basis of the sentinel events alert system designed by the Joint Commission for the Accreditation of Healthcare Organizations. Similar to the latter model, the Slovenian system requires reporting of a list of most serious adverse events. Each of those adverse events is to be reported to the system manager, which is the Ministry of Health, within 48 hours. The reporting institution must also carry out a root cause analysis in 45 days, and within that period send to the Ministry both the findings, described on a standardized form, and a list of corrective actions taken by the provider institution. The system is explicitly not involved in any disciplinary actions towards healthcare workers or provider institutions. All the reports sent by the institutions are anonymous, so that personal data about patients and staff involved are not included. Furthermore the Ministry of Health is not the body responsible for professional oversight of healthcare workers, as this authority has been delegated to professional associations. The system does not provide immunity against disciplinary actions. Complaints by the patients trigger a different set of mechanisms, the primary objective of which is to allocate responsibilities.

The adverse event reporting system has had mixed results. The number of reports received is shown in table 1. An extrapolation of the data published in the report "To Err is Human" cited above

would lead us to expect several hundreds of such reports a year. Even though estimates are not precise, it is safe to assume that very serious adverse events are significantly under-reported.

*Table 1: Reports of sentinel events received by the Ministry of health within the national adverse event reporting system*

Year	Number of reports
2002	14
2003	7
2004	3
2005	2
2006	4
2007	1
2008	5
2009	12
2010	25

*Source: Ministry of Health of the Republic of Slovenia*

In 2008 an adverse event leading to the death of a child received a lot of media attention. The incident was not reported within the adverse event reporting system. Following the complaint of the parents, who questioned the appropriateness of the care received by the child, an internal investigation was performed by the hospital involved. The conclusion was that the death was not the consequence of a failure to provide appropriate care according to the expected standards. The Medical Chamber of Slovenia, which has a mandate for professional oversight of doctors in Slovenia, recognized that the doctors involved did not provide the expected care, yet the general public was not satisfied with disciplinary actions taken. The public discussion about the case dominated the healthcare agenda in the media for several months. Its impact on the healthcare system as a whole was twofold: on the one hand patient safety reached the top of the health priorities under intense pressure from public opinion. On the other hand the media attention received by the involved doctors increased the amount of concern among healthcare professionals about public blame towards individuals involved in cases of medical error.

Following the event a series of seminars was organized by the Ministry of Health aimed at top and middle management of hospitals and an event aimed at primary care professionals. Those seminars included presentations of several views of patient safety and in particular a reminder of the working of the adverse event reporting and learning system. In 2009 hospitals were also required to introduce the figure of patient safety officer, responsible among other things for the

coordination of the adverse event reporting system within the hospital. Those officers were also invited to a two day workshop about performing root cause analysis. The effects of all these activities were evident in the number of reports received. The number of reports in 2010 increased five times compared to 2008. While such a result confirms the effectiveness of those interventions, a look at the absolute number of reports indicates that significant under-reporting is still present.

Efforts are still underway at the Ministry to provide a more appropriate regulatory framework for reporting within the adverse event reporting system that would further reassure healthcare professionals that such a report will not result in negative consequences for those reporting.

## THE NEED FOR AN ESTIMATE OF ADVERSE EVENTS IN SLOVENIA

Despite all of the actions taken above, the Ministry of Health felt that it was of the utmost importance to have scientifically sound data on the actual frequency of adverse events in Slovenia. The results of such a study are not expected to differ significantly from those consistently observed in other countries. Yet data could inform policymakers and healthcare managers on the most frequent causes of harmful event, which may be specific to the Slovenian healthcare settings and practices. Such a study could also be very helpful in enforcing the view both among the professionals and among the general public, that adverse events are not isolated and rare, but rather a common, if undesired event. Recognizing the relative frequency of such events would dictate the need for a systemic approach and concerted actions among the healthcare partners. Recognizing the systemic nature of the problem would help in engaging healthcare professionals, who sometimes feel that quality and safety is a concern for quality and safety experts. At the same time it would help foster the view in the general public, that adverse events are not simply the consequence of negligent behaviour among healthcare workers. Appreciating the systemic nature of the problem would be very helpful in exerting a positive pressure from public opinion on the problem, while at the same time reducing the urge to recognize and publicly blame involved individuals.

The Ministry of Health and the WHO office in Slovenia co-hosted a round table on patient safety in autumn of 2010. The round table was attended by representatives from Slovakia, the Czech Republic and Slovenia and by various international experts. Participants recognized the importance of promoting the development of a safety culture in order to engage professionals and make actions in this area more effective. The conference was also used by the Ministry of Health as an opportunity to launch a proposal to representatives of healthcare institutions in Slovenia, to carry out a study on the frequency of adverse events in Slovenia. At the same time representatives from WHO presented a new tool titled "*Assessing and Tackling Patient Harm – A methodological guide for data poor hospitals*" (9). The publication lists a series of approaches to assess patient harm and gives clear methodological guidance for its use. The tool has already been piloted in various countries and settings, including France, Morocco, Egypt and Jordan.

Following the event the Ministry of Health and the WHO Office in Slovenia agreed to intensify the efforts to promote a study of adverse events in Slovenia that would be based on the above mentioned publication. All hospitals were invited to participate to the study. Nine of them responded positively as well as the two clinical centres in Slovenia, representing a pool of more than 50% of all the patients hospitalized in Slovenia each year. Participating institutions were invited to identify doctors, nurses or other hospital staff, who will take a major role in carrying out the study. The investigators that were thus identified were invited to participate to a workshop aimed at training them in the use of the selected methodology.

Since the purpose of the study is to estimate the frequency of adverse events in hospitals in Slovenia, including a subgroup of hospitals based on their response to an invitation is a significant methodological drawback. As the group of hospitals involved was not selected randomly investigators will have to acknowledge this fact and therefore the impossibility to claim an estimate of adverse event for the entire Slovenian healthcare system. Despite this drawback it was felt, that such a sensitive study, associated with high risks, was more likely to be carried out if participating

hospitals were to volunteer in it, thus ensuring motivation and support of the participating institutions or at the very least of the top management delegated to take such decisions. Furthermore it could be speculated, that a lack of interest in the study may in some cases imply that patient safety is not considered a high priority by the institutions or that fear of poor results might lead to media exposure. It must also be taken into account, that most hospitals complain of understaffing and so a lack of resources would probably be cited frequently as the cause for a lack of interest in the project. If those premises are accepted it follows that the bias implied by the hospital selection might lead to an under-estimation of the frequency of adverse events rather than the opposite. Besides such an extensive multicentre study would certainly call upon any institution, claiming to have a smaller number of adverse events, than those that will be observed, to perform their own research to support the claim. As the stated purpose of the study is to raise awareness of both health professionals and the public about the issue of adverse events and point to its systemic nature, the authors believe that this drawback will not jeopardize the overall goal of the study.

Organizers of the training asked the hospitals to ensure the participation of the appropriate hospital staff. No indication was given as to the preferred specialty of the doctors involved. Consequently the pool of trained specialists included several surgeons and internal medicine specialists and a few specialists from other areas: paediatrics, psychiatry, rehabilitation medicine and anaesthesiology. A noticeable absence among the specialists is the obstetrics-gynaecology profile, as hospitalizations in this area represent approximately 20% of all hospitalization in Slovenia (more precisely 18,9% according to 2009 data). The foreseen size of the project does not allow for all medical specialties to be included in the study. At the same time the rate of adverse event can be expected to differ significantly among the various specialties, as processes of care vary a lot according to the type of ward involved. Consequently this must be recognized as a further limitation of the study, which will allow drawing conclusions about the rate of adverse events within various hospital wards' area of specialty. Estimates of the overall rate of adverse events in hospitalized patients can only be considered a rough estimate.

The training took place over two days in January 2011 in Ljubljana. The workshop was led by experts from WHO and attended by 28 doctors, nurses and other hospital staff from participating hospitals. The method chosen and presented involved a review of the medical documentation of all the patients in selected wards, followed by an interview with doctors and nurses, to clarify possible issues raised by the review. Thanks to the collaboration of the University Medical Centre in Ljubljana participants also had an opportunity to practice the use of the methodology in real hospital settings. The methodology involves a record screener, usually a nurse, who fills out a semi-structured questionnaire. Possible adverse events that are thus identified are then analysed in depth by the medical reviewer. It is essential that the reviewer is a medical specialist in the area of the ward being reviewed. The methodological guide developed by WHO identified some key success factors that are reported in table 2.

*Table 2: Key success factors of the survey methodology*

<ul style="list-style-type: none"> <li>▪ The medical reviewer has clinical experience in the type of ward he/she assesses</li> </ul>
<ul style="list-style-type: none"> <li>▪ The reviewers do not work in the wards whose records they are reviewing</li> </ul>
<ul style="list-style-type: none"> <li>▪ The record screener and the medical reviewer should work in the same room to simplify organizational matters</li> </ul>
<ul style="list-style-type: none"> <li>▪ The review team should alert the hospital's health-care team if the record review reveals a resolvable patient problem or patient risk</li> </ul>
<ul style="list-style-type: none"> <li>▪ The doctor in charge knows the clinical situation of the selected inpatients and the care they have received.</li> </ul>

Source: Assessing and tackling patient harm – A methodological guide for data-poor hospitals, WHO, 2010.

The results from the training were not analysed to obtain an estimate of the frequency of adverse events in order not to single out a collaborating institution and because of the relatively low reliability of the results, being part of training. Nonetheless the workshop taught investigators important lessons in addition to the strictly methodological aspects that assure the scientific soundness of the study.



The importance of clear communication with the staff of the hospital involved in the review at all levels has been recognized as crucial. The support of the top management was sought with exhaustive explanations of the purpose of the study and clear information on how the data received will be used. The active role of an engaged professional within the involved healthcare organization has been absolutely indispensable. The contact person had access to hospital staff and insight into the workings of the organization before the day of the survey, as cannot be expected from an outside investigator. This allowed for an effective communication particularly with ward chiefs. The importance of such communication can be appreciated particularly considering the high level of apprehension that is linked to a survey of adverse events, for the reasons explained above. Extensive explanations about the dynamics and purpose of the training were also given to the healthcare professionals working in the surveyed wards, designated to collaborate with the trainees. Feedback was also sought from all participants and the importance of explanations and reassurance about the purpose of the survey has been emphasized.

A level of concern about surveying hospitals for adverse events also led to the proposal of entrusting the surveys to those trained within their own institutions. Such a study design would additionally have the advantage of eliminating the need for patient consent. Even though individual patients are not identified in the final publication in any way, giving access to medical records to professionals not employed at the hospital, where the patient is hospitalized, requires an explicit consent on the part of the patient. If such a design was opted, several hospitals, that agreed to participate in the study, would be left out, as some of them did not have a complete team of nurse and doctor participating to the training. Some investigators also believe that such a decision could impact the objectivity of the study. As the issue of adverse event has recently become a particularly sensitive one in Slovenia, investigators could also be exposed to pressures from management and colleagues.

Following the workshop the research protocol was finalized and submitted to the National Medical Ethics Committee for approval. Following approval a schedule for hospital visits must be agreed with the involved hospitals, which will allow the actual survey to take place. The study is expected to be concluded by the end of 2011.

## CONCLUSIONS

Patient safety became a priority area particularly in the past decade. The new quality movement did not just place safety at the top of the agenda for action in healthcare, but also radically changed our understanding of patient safety. This change in perspective needs to be understood not just by quality and safety experts, but by all healthcare workers. The latter is a necessary condition to engage healthcare professionals in taking an active role in this area. At the Ministry of Health of the Republic of Slovenia a number of initiatives took place in recent years to foster the interest of healthcare professionals in patient safety. While those interventions have been successful in several aspects, more needs to be done. The Ministry of Health recognized that a research about the frequency of adverse events in Slovenia is a key step towards greater awareness of both professionals and the general public of the pressing issue of patient safety. At the same time it is believed, that such a study could positively influence the blame culture based on individual responsibility, by showing the systemic nature of the problem.

The methodology for such a study was provided by the WHO, which already piloted it in many countries. Despite having a methodology at hand, the study design showed several limitations towards claiming to have an accurate estimate of the rate of adverse events in Slovenian healthcare. The authors believe that even taking those limitations into account, the data provided will be instrumental in achieving the fundamental purpose of the study.

## REFERENCES

1. Kenney C. *The Best Practice: How the New Quality Movement is transforming Medicine*. New York: PublicAffairs, 2008.
2. Deliberation of the Supreme Court of the Republic of Slovenia No. VS03656 from 26. March 1998
3. *To Err Is Human: Building a Safer Health System*. Washington: National Academies Press, 2000.
4. Thomas EJ, Studdert DM, Burstin HR, Orav EJ, Zeena T, Williams EJ, Howard KM, Weiler PC, Brennan TA. Incidence and types of adverse events and negligent care in Utah and Colorado. *Med Care*. 2000 Mar;38(3):261-71.
5. Brennan TA, Leape LL, Laird NM, et. al. Incidence of adverse events and negligence in hospitalized patients: results of the Harvard Medical Practice Study I. *Qual Saf Health Care* 2004; 13: 145-151.
6. Walton M (ed.) *WHO Patient Safety Curriculum Guide for Medical Schools*, WHO 2009
7. Soop M, Fryksmark U, Köster M, Haglund B. The incidence of adverse events in Swedish hospitals: a retrospective medical record review study. *Int J Qual Health Care* 2009; 4: 285-291
8. Council recommendation of 9 June 2009 on patient safety, including prevention and control of healthcare associated infections (2009/C 151/01)
9. *Assessing and tackling patient harm – a methodological guide for data-poor hospitals*. Geneva: World Health Organization, 2010.

## **Tourism Enterprises and Sustainable Tourism: empirical evidence from the Province of Pesaro Urbino**

**Simone Splendiani** – [simone.splendiani@uniurb.it](mailto:simone.splendiani@uniurb.it) – University of Urbino “Carlo Bo”

**Tonino Pencarelli** – [tonino.pencarelli@uniurb.it](mailto:tonino.pencarelli@uniurb.it) – University of Urbino “Carlo Bo”

**Mauro Dini** – [maurodini@live.it](mailto:maurodini@live.it) – University of Urbino “Carlo Bo”

### **Abstract**

The aim of this work is to investigate the role of tourism enterprises in sustainable development processes of Destinations. This includes the way in which tourism services can help local economic development, in line with the needs of all stakeholders: citizens, businesses, local agencies and tourists.

The orientation and cultural awareness of businesses to sustainable development is here considered a precondition to organizational and strategic innovations, as well as product. The innovations resulting from the application of the principles of sustainability, in fact, have important implications for the use of tourism services, generating changes in the processes and patterns of use, even before technological and organizational changes. When companies change the traditional strategic direction and begin working towards sustainability, as described by Normann [1992], patterns emerge in which many innovations are based on social innovations, or "innovations that create new types of social behavior, using human and social energy more efficiently and connect to each other - in new ways – and to social contexts." These innovations may originate from the participation of customers in organizational changes or technical innovation. In the case of tourism marketing, this may play a role in driving awareness and demand, encouraging visitors to use sustainable and responsible tourism experiences.

For this purpose it is necessary to ask the following research questions:

- What degree of awareness do tourism entrepreneurs have about the issues of sustainability?
- Which policies for sustainability are implemented by firms and with what results?

This study attempts to answer these questions through a qualitative and quantitative survey distributed in questionnaire form to a sample of local tourism enterprises of different legal classifications.

This study reveals that the sustainability policies put in place by these enterprises first require corporate visions and strategic approaches based on a high degree of awareness of tourism entrepreneurs. Second, policies need cooperation with the public entities, requiring not only regulation but also economic incentives.

Despite the limitations of the research - especially the small size of the territory investigated and the observed number of firms - the study offers important evidence about the relationship between tourism enterprises and sustainable growth of the area. This relationship is rich in cultural and ethical implications and suggests to companies an effective means making policies to meet challenges related to a new development model and new trends in global tourist demand.

### **1. The tourist development of the territories: towards the "sustainable destination"**

The concept of sustainable tourism, also known as responsible, critical or ethical tourism, was born in the nineteen-eighties and is commonly and practically understood as "tourism that meets the needs of present tourists and host regions while protecting and improving prospects for the future". It must integrate the management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential processes, biological diversity

and life support systems" (World Tourism Organization - WTO, 1996). The attainment of these needs - which is outlined by the W.T.O. along the three dimensions - environmental, social and economic - is valid from the point of view of territorial government when considering natural resources and environmental factors key to competitiveness of a destination (Crouch and Ritchie, 1999; Pencarelli and Forlani, 2002). These factors, therefore, must be preserved.

The managerial perspective that we chose considers objectives of competitiveness and sustainability to be related, in order to generate income flows in the future without damaging the social processes as well as to contribute to improving the quality of life of residents and tourists.

For this purpose, the governing body of the destinations should guide development strategies towards objectives of sustainability and environmental quality (T. Mihalic, 2000), putting in place policies designed to promote the generation of tourist flows from major market objectives, or preparing de-marketing actions aimed at discouraging certain demand segments of tourism experiences to use at certain times in the destination (Buhalis, 2000) where situations of conflict between the various stakeholders arise.

There are no "sustainable" policies suitable for all tourist destinations, but rather they are strongly tied to the context and reference to the "degree of sustainability" that the destination presents (Weaver, 2000; Pencarelli and Splendiani, 2010, Miller G , L. Twining-Ward, 2005).

Tourist destinations are not all equal in subject and form of government (Pencarelli et al. 2007, p. 33), in geographical location, or lifetime (Buhalis, 2000; Furlan, 2007 ). In terms of sustainability, it is possible to hypothesize the existence of three types of destination (Pencarelli, Splendiani, 2010):

- Destinations in formation: similar to the destination in the initial stage of the life cycle, with wide margins for growth in terms of arrivals and overnight stays, without the danger of compromising the ecological balance and social territory;
- Sustainable destinations, or equilibrium destinations: the flow of tourists not only does not compromise sustainability, but the phenomenon of tourism brings benefits to the territory in terms of economic, social and environmental contributions (rural tourism, etc.).
- Unsustainable destinations: tourism development has been aimed exclusively to increase numbers, in terms of arrivals and overnight stays. Emerging environmental and social problems put at risk the survival of the destination. There is declining competitiveness of the destination and image is damaged.

In order to guarantee the transition to the "sustainable destination", it is necessary to understand which indicators give clear answers on the "state of sustainability" of the destination (Miller G, Twining-Ward L., 2005; Sasidharan, Sirakaya, Kerstetter, 2002; Hunter, Shaw, 2005; Hughes, 2002; Bendell, Font, 2004; Buckley, 2001; Miller, 2001)<sup>1</sup>. Performance measurement systems of many Italian tourist destinations consider only indicators on arrivals and overnight stays, and in some cases, the average expenditure per tourist (Cf. Splendiani, 2009). This could be the cause of the state of unsustainability detectable in many Italian tourist destinations. The destinations that want to embark on a recovery path of sustainability need rather a multidimensional indicator system, able to highlight the linkages and cause-effect relationship between the phenomenon of tourism and the economy, environment and society. Based on a new system of indicators, we should point out that sustainability policies are many and not all placed in the "traditional" activities of the Destination Marketing put in place by DMOs (Destination Management Organization). In

---

<sup>1</sup> See also De Carlo *et al.*, 2008.

some cases, the role of the governing body is simply related to the acceptance of policies from outside, often not addressed as a priority for tourism development (eg environment).

According to Mihalic (2000), there are four types of action aimed at increasing the environmental sustainability of tourism destinations: adherence to codes of conduct, uncertified environmental practices, environmental awards and best practices (Cfr Iannario, 2008, tab. 1 e tab 2 p. 275).

In terms of market relationships, orientation to sustainability requires some clarifications. A "sustainable tourist offering" can give greater value for the tourist experience in itself, especially on the part of market segments consisting of so-called eco-tourists, travelers sensitive to issues of sustainability and the economic development of tourism in general.

For these people, the economic proposals made and distributed according to the logic of sustainability tend to increase both satisfaction - it fits the needs - value, i.e. the symbolic benefits the tourist associates with enjoying the experience according to the criteria of sustainability.

However, tourist destinations that are both sustainable and competitive need to direct/turn their offers to those segments of tourists less attentive to issues of sustainability and responsible tourism. These customers require no more than the mere satisfaction and maximizing the value of tourism-related experiences - which may come into conflict with the principles of sustainability of the offer - but also and above all their "education" to new models of responsible tourism.

In this sense it is appropriate to adopt a relational approach to destination marketing (Gummesson, 1999; See Fyall et al., 2003) which aims to build interactive and durable relationships with all stakeholders and especially with tourists, in order not only to acquire new customers but, more importantly, to ensure the creation of value for individuals and subsystems through the maintenance of environmental, social and economic balance (Cf. Golinelli, 2002).

The challenge of sustainability for a tourist destination is very complex but at the same time inevitable, whichever the primary path to the maintenance and enhancement of tourism and environmental, social and cultural resources of territories and locations.

Macro-level managerial actions by governing bodies of destinations to help restore or maintain the sustainability indicators are required. Tourist businesses also play an increasingly important role in pathways of destination development and are on the front line in dealing with tourists.

This underpins the beginning of a collective learning process aimed at achieving cultural change and a widespread awareness on sustainability issues by the actors of the destination (Pencarelli e Splendiani, 2010).

## **2. The role of tourism enterprises: from awareness to operational policies for sustainability through innovative processes**

In order to understand the possible contribution that tourism businesses can offer to the sustainable development of tourist destinations conceptually, we offer two perspectives of analysis, highly correlated but conceptually distinct. The first relates to the business culture and value system of the entrepreneur or management. This perspective is based on his/their awareness about the meaning of sustainable development, its implications and related behaviors toward that orientation. The second concerns the actual implementation of operational policies aimed at sustainability. The basic hypothesis - that will be the subject of the empirical investigation - is that there is a strong connection between the two levels.

In order to take action on the awareness of entrepreneurs, it is possible to work on individual and collective training as well as on building even closer relationships and cooperation among them. It is, in other words, necessary to imagine policies as well as internal and relationship

marketing aimed at all stakeholders, through a process of collective learning, aimed at creating a shared vision by all stakeholders that includes the issues of sustainability in the decision-making processes of firms and destination<sup>2</sup>.

This implies a variety of information flows within companies, between companies, between producers and consumers and between the public and private sectors. All this requires a "weakening" of the traditional boundaries of the company (Weidenfeld et al. 2010)<sup>3</sup>, which requires the ability to manage knowledge and its applications, identify the resources needed and those possessing knowledge, and the knowledge re-distributed within the organization (Nonaka and Takeuchi, 1995). At the company level, therefore, it is strategic to the organization's ability to draw on external learning capital (in terms of human resources, information, knowledge). The high degree of interdependence of the local tourist actors tends to facilitate the transfer and circulation of knowledge in international business, laying the foundation for learning processes in line with the strategic network theory<sup>4</sup>, according to a process of "continuous learning by interaction" (Heunks 1998). All this from a perspective of learning by cooperation, in which cooperation could be an effective tool for raising awareness by linking business, even in different sectors, size, management problems and common goals, and promoting actions through competitive benchmarking.

The second level of analysis regards the adoption of operational policies aimed at improving parameters of sustainability. We believe that these policies represent potential innovations, capable of generating value for the enterprise, for the consumer and the local system through the introduction of new organizational structures or new configurations of services such as the maintenance or recovery of environmental, social and economic balances. These innovations are designed from the perspective suggested by Norman (1992), as behavioral changes related to the consumption process, even before technology. As such, innovations in customer participation are essential if elements are of not the same origin. Innovations aimed at the sustainability of tourism businesses may be:

- Strategic: when the company resets its business model through new combinations of customers served, satisfied needs and technologies used (See Abell, 1986) - this is be found in the case of products / services dedicated to the segment of eco-tourists;
- About the product / service: through the introduction of something new in relation to the supply system, both in absolute terms - something never seen before - as well as in relative terms - that is, referring to the specific company or destination (See Hjalager 2010). In this respect the perspective of sustainability suggests to set up products- experiences leveraging on environmental resources, landscape, human and cultural characteristic of the area, directing them to the consumer segments in search of authenticity and real experiences, not bootleg and not artificial (Pencarelli and Fortezza, 2010);
- About the process / technology: related to the production/delivery processes - even of a technological nature - aimed at increasing the accessibility, efficiency and productivity of the processes given without affecting the quality;
- Related to the processes of enjoyment of the holiday: helping to orient the tourist toward to responsible tourism;

---

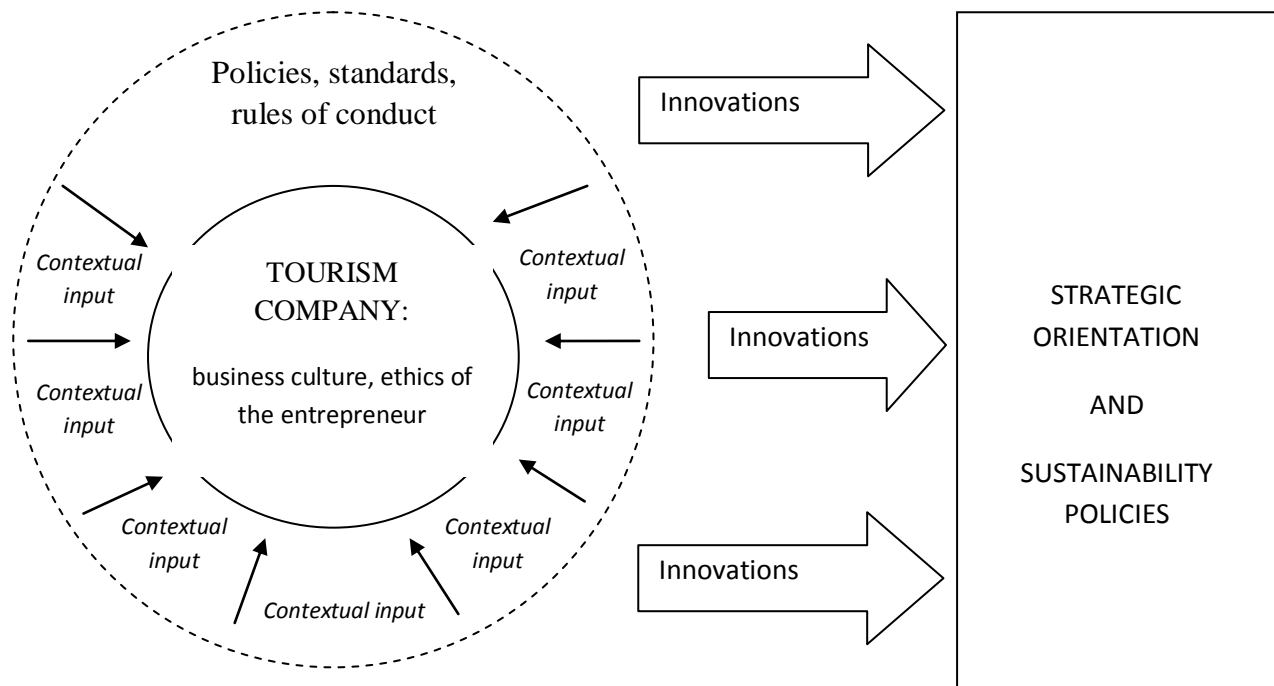
<sup>2</sup> Schianetz *et.al.* (2007) is useful for the application of the *learning organization* to tourist destinations (*Learning Tourist Destination*, LTD).

<sup>3</sup> See Sundbo et al., 2007.

<sup>4</sup> See Shaw e Williams, 2009.

The business innovations induced by the sustainability view arise from the close and dialectical connection that exists between the operational policies of the companies and the awareness of entrepreneurs, which in turn is conditioned by the input (policies, standards, rules of conduct) of context from the system of actors and, in general, the destination (Fig. 1).

*Figure 1 – Sustainability policies as outputs of innovative processes of tourism businesses*



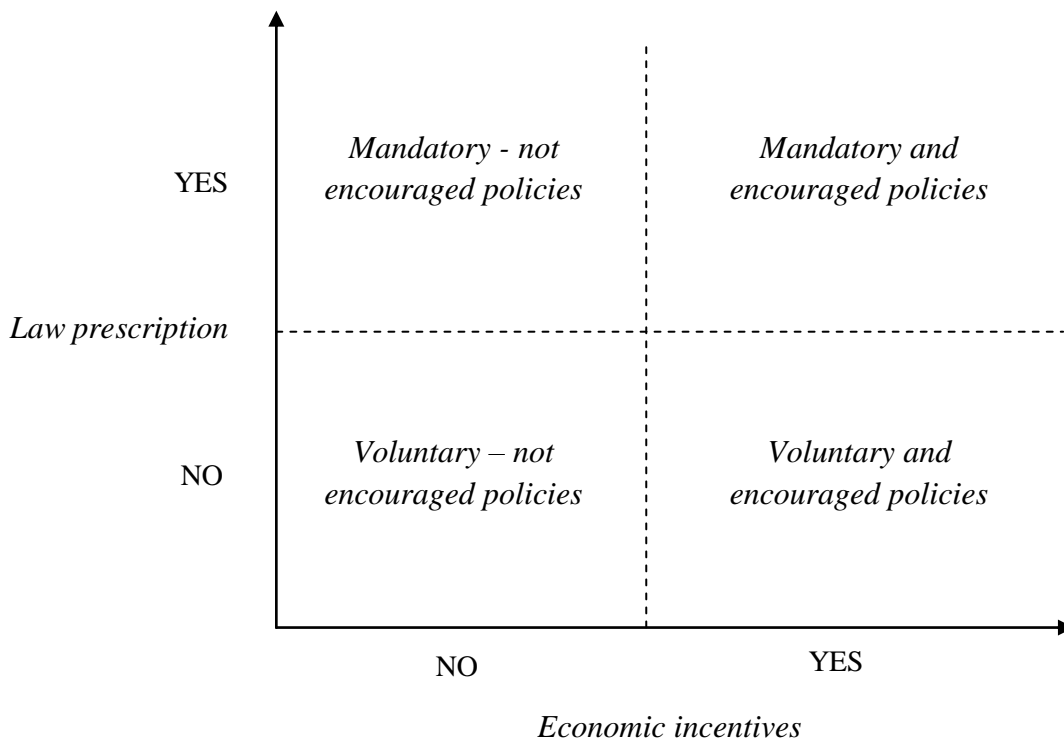
According to this conceptual model, the destination is the local context from which emerge the inputs that influence the entrepreneurial culture and / or business. These, in turn, strategically orient and stimulate the innovative capacity of the entrepreneur / manager and the whole territorial system. Sustainability policies are outputs of broad innovative processes involving varying degrees of creative ability of the entrepreneur and public as well as legislative action, called for by the tourist and resident population. The public can play a crucial role in interventions required by law through the establishment of economic incentives. Based on these two perspectives is possible to propose a taxonomy of different policies for sustainability that measures the participation of the lawmaker with respect to innovative processes, namely:

- Presence / absence of legal requirements: mandatory vs. voluntary policies;
- Presence / absence of economic incentives: encouraged vs. not encouraged policies.

From the intersection of these dimensions emerge four different categories of policies for sustainability (Fig. 2):

- Mandatory - not encouraged policies, be implemented for the imposition of law and without the provision of public financial contributions;
- Mandatory and encouraged policies, that provide economic incentives to the contrary;
- Voluntary and encouraged policies, i.e. not required by law but which have economic incentives;
- Voluntary – not encouraged policies, those implemented on the basis of different reasons, both related to personal or business ethics, and related to economic returns of firm image.

Figure 2 – Sustainability policies matrix



This taxonomy is influenced by various contextual factors that lead to extreme instability of boundaries between the categories themselves, as every legal system (from national to municipal regulations) impacts on individual policies and the assessment of their classification, in addition to specific legislation on the type of accommodation firms. Nevertheless, a classification of this kind can indicate on the one hand the behavior of enterprises in a more accurate way, especially with regard to links between political and regulatory environment. On the other hand, this taxonomy also pushes the legislature to evaluate innovative processes for which - according to this approach - the policies are a prerequisite for sustainability. Among voluntary policies - encouraged or not - it is possible encompass direct politics and certifications. The first correspond to actions that conserve energy, save water saving, and recycle waste (if this is not provided as required by law), practices of "responsible purchasing", the production of energy from renewable sources, the use of local products in restaurants, etc.. Certifications, however, are qualifications by agencies on the achievement of quality standards by the company, with advantages to the company in terms of image<sup>5</sup>.

Examples of mandatory policies are those aimed at removing architectural barriers, which are also in some cases encouraged.

### 3. Empirical investigation

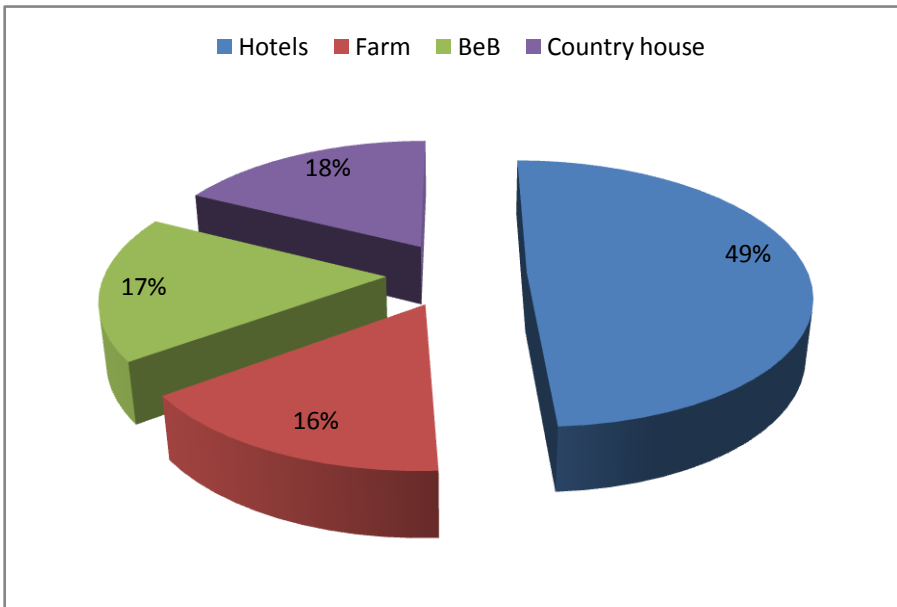
#### 3.1 Objectives, research methodology and sample analyzed

<sup>5</sup> For a review on the main environmental certification for tourism businesses see Dini (2011).



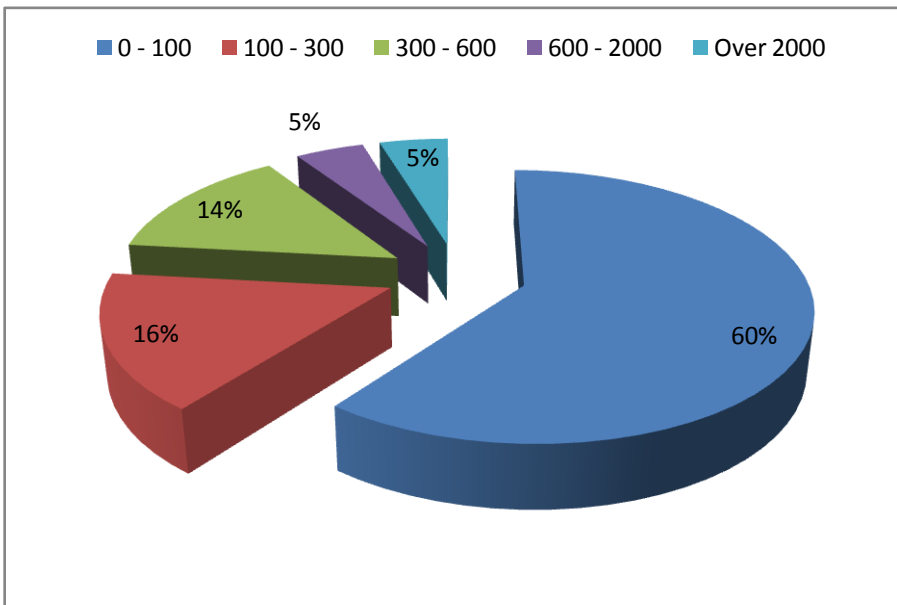
From the methodological point of view it was decided to operate with a type of quantitative research by administering a standardized questionnaire. The administration was carried out according to a quota sampling. In total, 58 interviews were conducted, 24 of which involving the municipalities of the province of Pesaro and Urbino. The types of companies interviewed are Farmhouses, Hotels, Country Houses, and Bed and Breakfasts (Fig. 3).

Figure 3 - Sample of firms by type



In 95% of the cases the turnover does not exceed two million euros (Fig. 4).

Figure 4 - Sample of firms by turnover, year 2010 (in thousands of Euro)

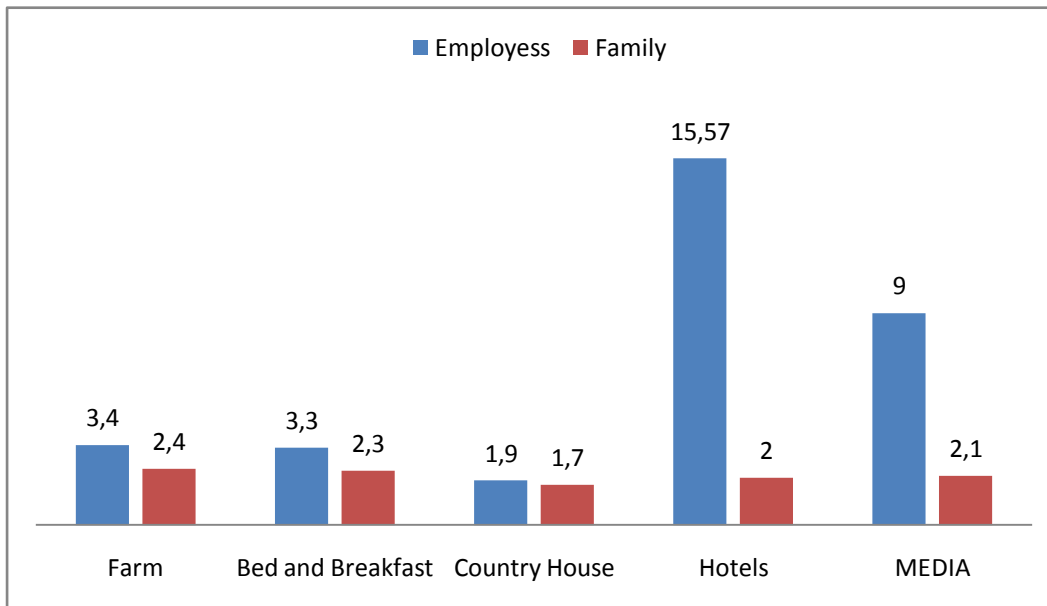


Most firms (60%) have a turnover of less than 100,000 euros per year. 16% is placed in income bracket (€100.000/300.000). These two brackets cover 76% of the sample analyzed.

Looking at individual categories, hotels tend to be located in higher income brackets (65% of these structures earn over €300,000), while B & Bs fall into the lowest (100% declared a turnover of less than €100,000).

The average number of employees is 9, on average 2 of which also belong to the family that towns/operates the activity (Fig.5).

Figure 5 - Average employees and by type and family structure



There are important differences among categories. Farm and Country House employees show a low average of 3.4 and 3.3, respectively, while the presence of family members is very high, 2.4 and 2.3. It is obvious that these types of companies are managed at the household level and only collaterally make use of local workers. B & Bs, usually operated in the same households as the owner-managers, are handled directly by the household (1.7 people) and only rarely need to contact the labor market. Hotels have a mean of 15.57 employees, with very low numbers of family components - 2. The hotel industry's large and structured location in major tourist flow areas require high levels of management.

### 3.2 Level of awareness of business / management

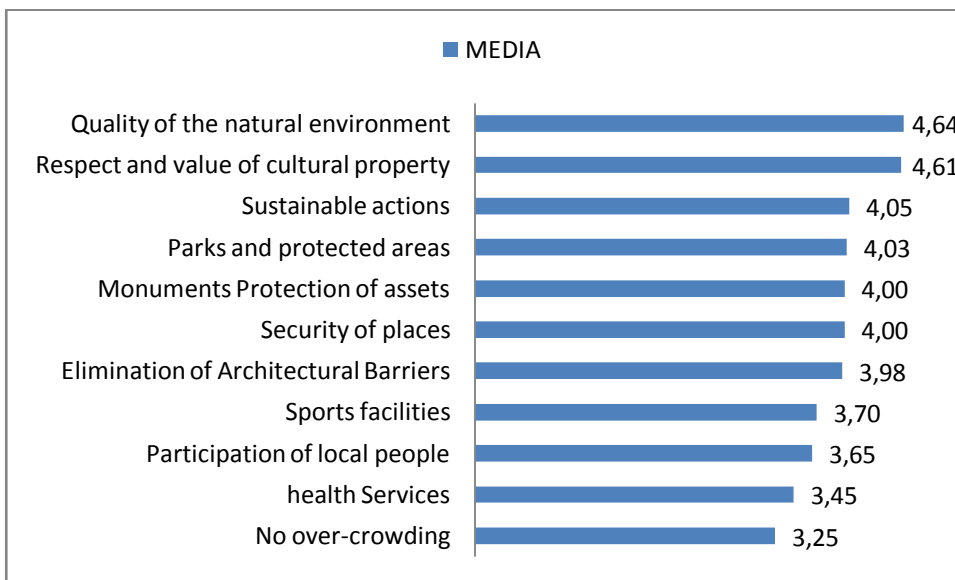
In order to assess the degree of awareness of entrepreneurs / managers about the sustainability of their business activities, we formulated three questions to the respondents.

The first aims to understand whether the entrepreneurs are aware of the meaning of "sustainable tourism development", especially with regard to environmental and ecological factors. The second aims to capture the propensity, or the availability / orientation of the respondents towards concrete action aimed at sustainability. The third question was designed to understand the level of awareness of businesses with regard to trends in demand.

The first question asked respondents to evaluate connections with the theme of some indicators of sustainable tourism development through a rating scale ranging from 1 to 5. In cases where an index

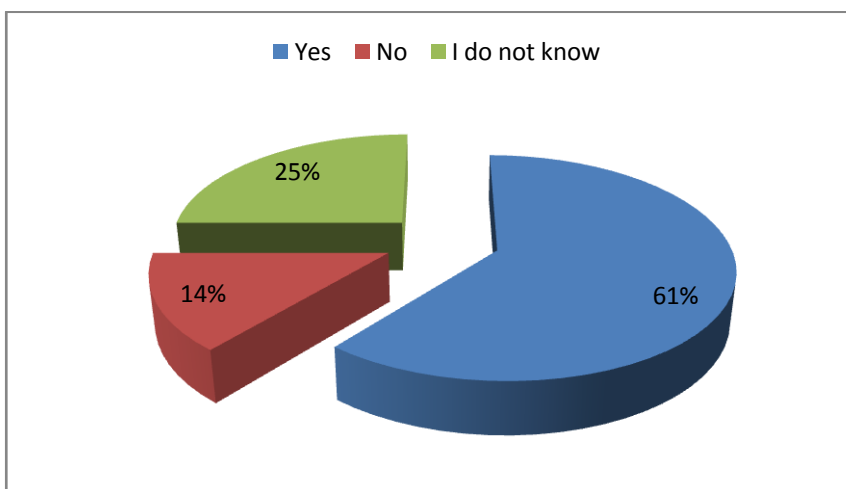
is not considered related to the theme of sustainability, it is assigned a value of zero. The results (Fig. 6) demonstrate that "the quality of the natural environment" registers the highest value (4.64), but "respect and appreciation of cultural and architectural" (4.6), and "sustainable actions"<sup>6</sup> (4.05) also received high scores.

Figure 6<sup>7</sup>: Answer to the question: When we talk about sustainable tourism, should we consider and to what extent should we consider the following factors? (assign a weight from 1 to 5)



The second question aims to understand the propensity of tourists to the business orientation to sustainability (particularly aimed at ecological and environmental) by assessing willingness to make investments in this direction (Fig.7).

Figure 7 - Answer to the question: Do you think it worthwhile to invest in sustainability policies?



<sup>6</sup> This index has attempted to assess the perception of the tourism entrepreneurs to the importance of providing viable direct policy (recycling, saving water and energy, ecological assets purchase and use of local products).

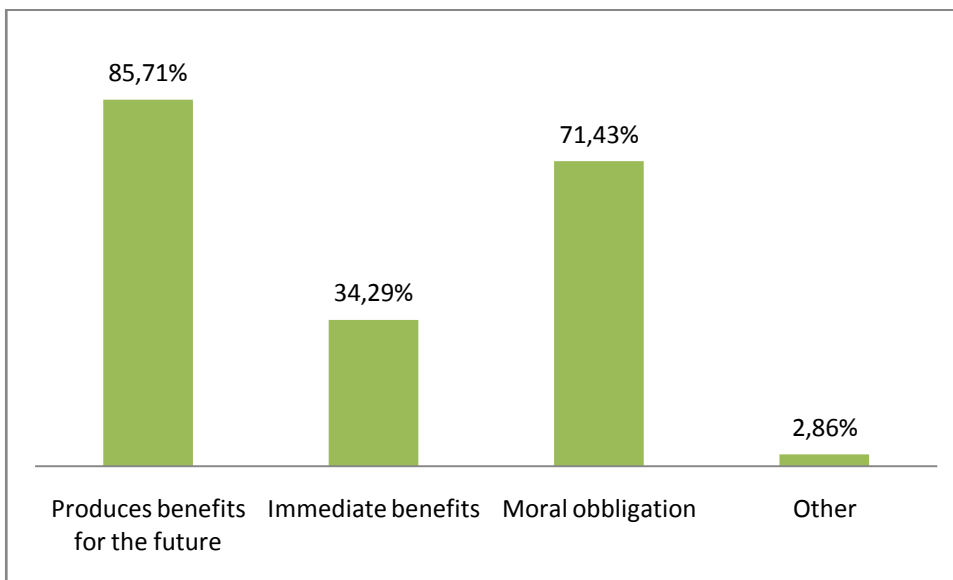
<sup>7</sup> The figure is calculated by taking into account 40 out of 58 respondents.

Figure 7 shows that the majority of respondents (61%), considers fundamental planning future strategies in a perspective of sustainability. But there are significant differences within the individual categories: while Farmhouses, Country Houses and B & Bs have an average equal to about 86% agreement, hotels agree only in 36% of the cases, presenting a large presence of uncertainty (50%).

Within the same question, respondents were asked to specify the reasons for their statements, whether the bias towards investment in sustainability is positive in the opposite case (fig.6 and fig.7)

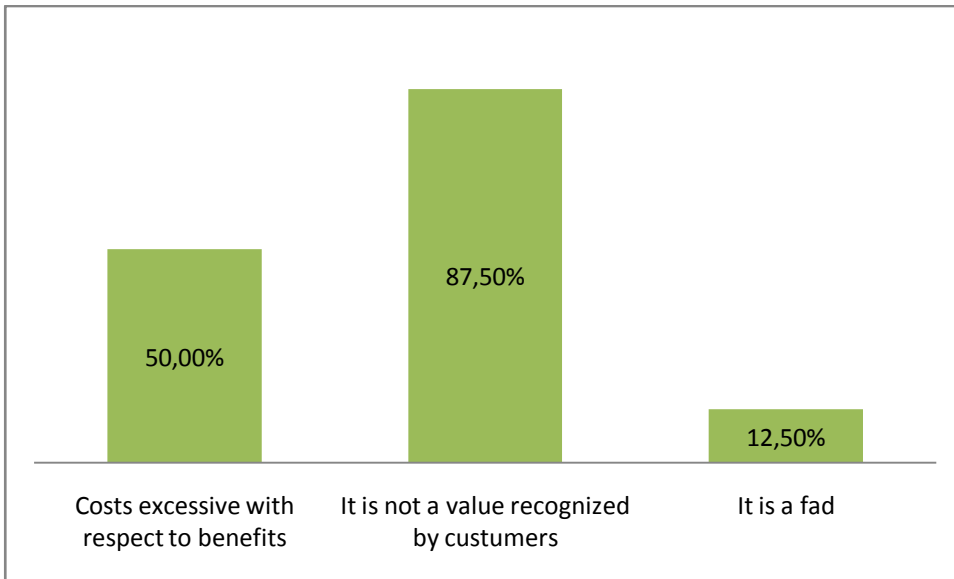
The most common motivation for the "confident" respondents - that stated that it is worthwhile investing in sustainability policies (61% of respondents) - turns out to be "produces benefits for the future" (86%), followed by because it is a "moral obligation" (71.4%) and finally to obtain an "immediate benefit" (34%) (Fig. 8).

*Figure 8 - Reasons why it is important to invest in sustainability*



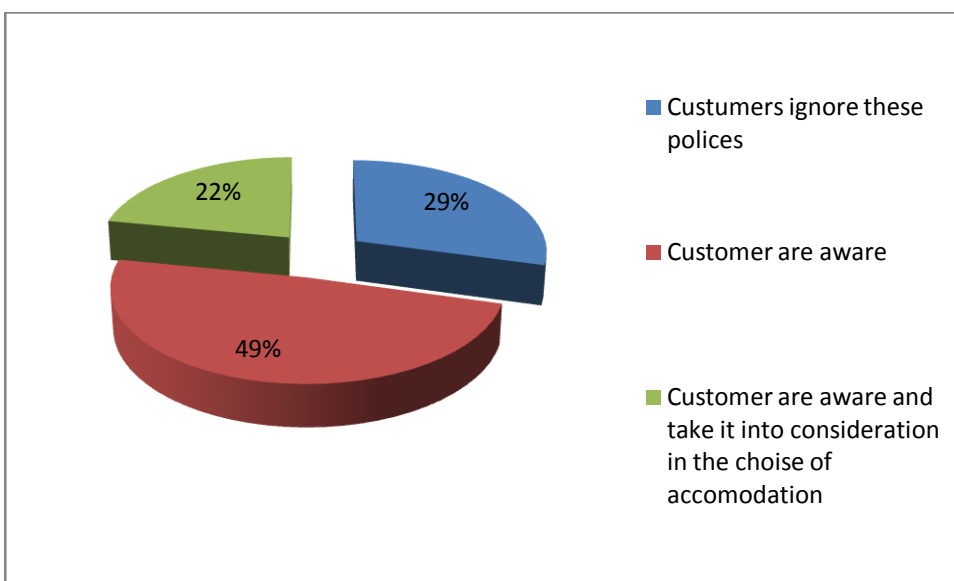
According to the "skeptics" - that is, those who declare that it is not worth investing in sustainability policies (14% of respondents) - investment in this direction would be useless because first sustainability "is not a value recognized by customers" (87.5) and, secondly, because "the costs are disproportionate to the benefits" (50%) (Fig. 9).

*Figure 9 - Reasons for which it is not considered important to invest in sustainability*



There is a great deal of sensitivity to issues of sustainability in tourism development. Employers recognize the quality of the environment and protection of historical and common daily activities aimed at sustainability as key factors that contribute to the formation of a sustainable destination. The third perspective concerning the awareness of entrepreneurs is related to the knowledge of the market and demand trends. Entrepreneurs were asked about the participation / involvement of clients in their sustainability initiatives, choosing between three different options: customers ignore the policies for sustainability; customers understand but does not take this into account in the choice of accomodation; customers know and take it into account in the choice of accommodation (Fig. 10).

*Figure 10<sup>8</sup> - Answer to the Question: What 'is the knowledge of customers in relation to initiatives for the sustainability of businesses and how does this affect the choice of the structure?*



<sup>8</sup> The data is calculated on 41 of 57 questionnaires

We can note that in most cases customers are aware of the policies in favor of sustainability (71%). For approximately one third of these (22% of the total sample), the implementation of these policies becomes the key factor in the choice of accommodation. Only one third of the sample believe that customers override the commitment to sustainability efforts by companies. This evidence is consistent with what has been shown about the willingness to invest in policies in this direction (Fig. 10).

Looking at individual categories of accommodation, 22% of tourists found “responsible” accommodation connected to categories such as Farm (44%) and Country House (40%) where the environment and social features are more important than the others (fig. 11).

Figure 11<sup>9</sup> - Customer policies that take sustainability into account in the choice of facilities, by type of business.



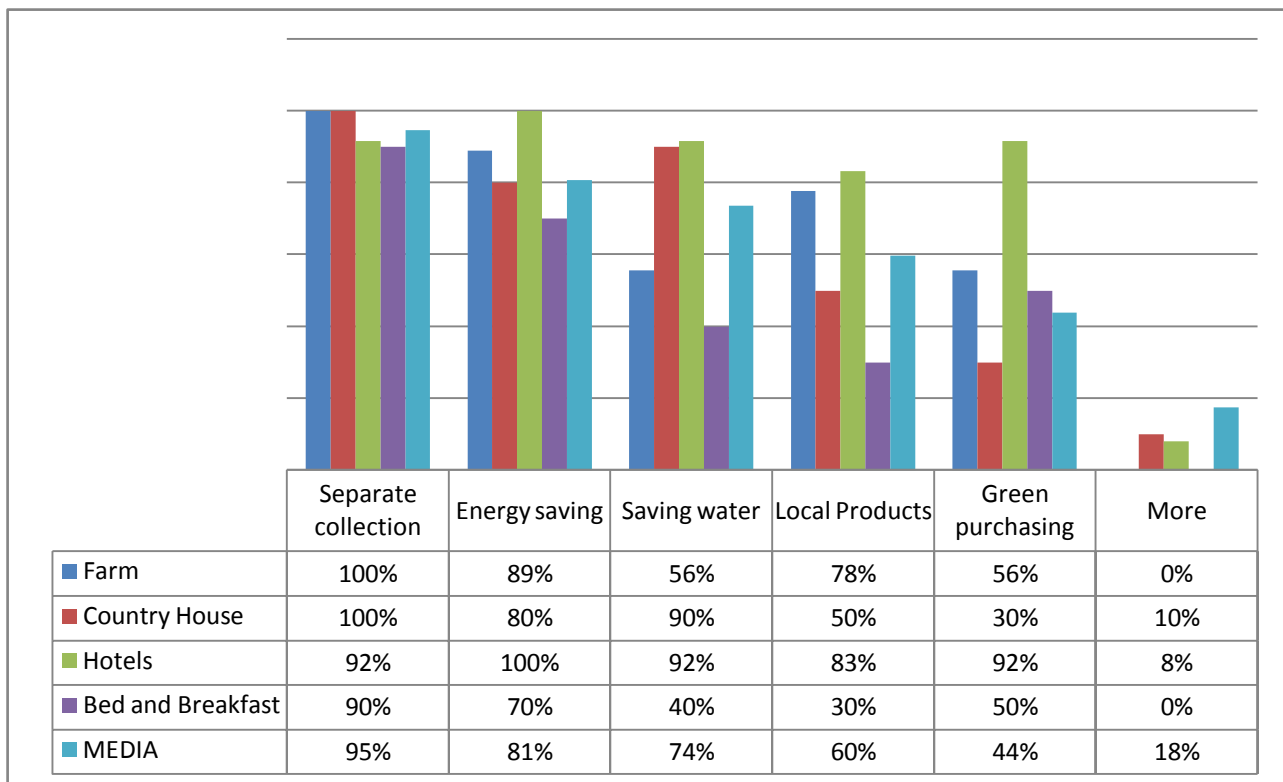
There is a segment of "responsible" tourists, according to the perception of entrepreneurs / managers interviewed. However, this does not guarantee effective coherence of action taken during the stay by tourists. Our earlier investigations have already offered mixed results, sometimes revealing a mismatch between intentions and actual behavior (see Hjalager, 1999).

### 3.3 Operational Policies made

The empirical analysis has also looked at the ability of the enterprise system to implement policies to promote sustainability. The five most frequently mentioned actions by entrepreneurs/managers are - in the following order: recycling, energy saving, water saving, use of local products in restaurants, ecological shopping, and finally as a percentage minority - the production of renewable energy for energy needs (see fig.12).

Figure 12 – Direct policies implemented in support of sustainable development

<sup>9</sup> The data is calculated on 41 of 57 questionnaires



In hindsight, this reflects policies that belong to different categories according to the classification we proposed previously (see Figure 2). Some, for example, are *mandatory-not encouraged* (such as recycling) or other *voluntary and encouraged* (such as the production of energy from renewable sources). Others - such as the use of local products - are *voluntary-not encouraged* for some types of categories (i.e. hotels) and *mandatory* for others types (like B&Bs). In any case, in both variety and frequency, the sample under investigation shows a wide spread of direct policies for sustainability.

In the cases examined the separate collection stands at 95%, energy saving at 81% (use low energy lamps and responsible behavior) and water savings at 74% (installation of flow reducers for water conservation and responsible behavior). Another *voluntary not-encouraged* policy adopted by firms are environmentally friendly purchases (purchases of goods and services that relate to eco-friendly products) - these present in 44% of the cases.

Analyzing the individual categories, it is useful to point out that hotels have increased average activity (59%), followed by Farm (56%) and Country House (53%) and finally the B & B (41%).

The high frequency in the hotels and the low frequency observed in the B & B allows us to assume a positive relationship - although not verified in this investigation – between the implementation of policies for sustainability and the level of managerialization of the enterprise, that promotes the creation and finalization of innovative processes leading to the sustainability of the affected and organization skills.

The second group of policies for sustainability relates to certification. 33% of enterprises report having at least one environmental certification. Within individual categories, Farms have the highest degree of certification (67%), hotels below 39%, Country House 20%, and finally B & Bs are not certified (fig. 13).

Figure 13 - Companies that are certified environmental and quality



There are about 30 different certifications (including: Green Flag Agriculture, Organic Farm, ISO 14001, Ecolabel, Project 0 km, TUV, Legambiente tourism, Terranostra, Italian Hospitality, Local Historians of Italy, Italian Academy of Cuisine, the Diary of the 365 among the best restaurants in Italy, Foodies, restaurants Bibenda, Michelin).

In most cases, certification reflects *voluntary-not encouraged* policies, motivated by a return in terms of image strengthened by associating the "sustainable brand" with the enterprise. It also benefits from the necessary activation of virtuous paths undertaken in asset management, business, and public services, necessary for obtaining and maintaining such awards.

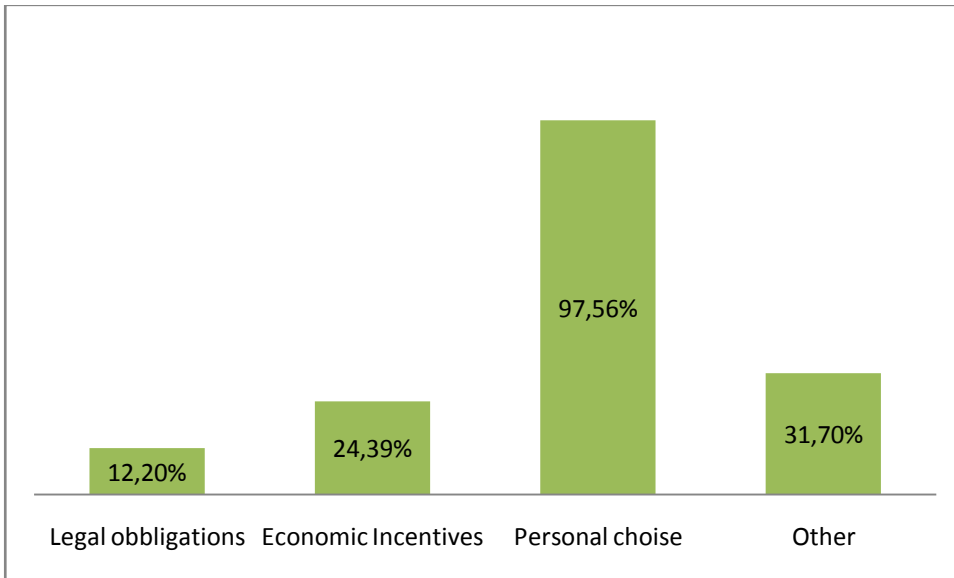
However, it is also worth pointing out aspects of weakness in terms of tourism communication, because communication is not always able to convey to consumers the value of the brand. As well, in a context of proliferation of schemes, tourism communication is likely to confuse tourists if brand systems and contexts become too complex (Pencarelli and Gregori, 2010).

Regarding the motivations that underlie the policies implemented by firms, the analysis shows that in almost all cases (fig. 14) the lead on policies and actions aimed at sustainability are taken for reasons of personal choice (98%). In 24% of cases the ability to take advantage of economic incentives was the deciding factor, while in 12.2% of cases sustainability policies were undertaken due to legal requirements. In only one case did it appear to be a cost savings. The answers seem to illustrate clearly the personal component in terms of culture, training and experience, when making choices that involve sustainability. The form of incentives seems to affect only some of the tourism entrepreneurs even though several have expressed the need to receive subsidies in order to make these policies.

Figure 14<sup>10</sup>: Reasons that have led businesses to implement policies for sustainability

<sup>10</sup> The data is calculated on 41 of 57 questionnaires





Only in one case were these policies are considered cost-effective. Thus it emerges that the public sector play a key-role in order to implement policies for sustainability, both with law prediction and with the provision of incentives. In particular, the survey shows a strong correlation between the presence and intensity of incentives and implementation of policies (fig.15)

To highlight this correlation it was necessary to determine the average of the direct policies carried out by all the categories (Figure 12) and the incidence rates of economic incentives emerged from the reasons that companies have adopted to implement policies for sustainability. Then, by linking two data points (Figure 15), we can see that the companies that have a higher percentage of direct policies aimed at sustainability, collaterally claim to have benefited most from economic incentives for the implementation of policies.

*Figure 15<sup>11</sup>: Impact of economic incentives on the sustainability policies by type of structure*

<sup>11</sup> The data is calculated on 41 of 57 questionnaires



Compared to the categories of accommodation, it appears that no B & B has received incentives, Farms and Country Houses report only one case each, while about 8 hotels report receiving incentives. Companies that have used economic incentives have the medium / large size of business spectrum in the sample analyzed, being represented mainly by the hotels located in the major cities of the province.

#### 4. Concluding remarks

This study has investigated the contribution that tourism businesses can make toward the sustainable development processes of the destinations with which they are associated. After a brief introduction on the role and the managerial perspectives of “sustainable destinations”, the study focuses on the tourism company level through an analysis model designed to evaluate on the one hand the awareness of entrepreneurs about the issues of sustainability (as a premise to innovative policies and strategies) and, secondly, the operational policies actually implemented.

The research hypothesis is that there is a strong correlation between the two levels, as policies for sustainability innovation outputs involve the company and the system of local actors (see Figure 1). In other words, the strategic orientation and cultural awareness of businesses to sustainable development must be properly considered preconditions to organizational and strategic innovations, as well as product and service. These innovations have important implications for the use of tourist services, causing behavioral changes related to the consumption process, even before technological and organizational factors come into play. In particular, *policies for sustainability represent potential innovations because they can produce benefits in terms of greater value to the firm and the territorial system by maintaining or recovering environmental, social and economic equilibrium.*

In order to validate these theoretical assumptions, this empirical research proposes a survey of a sample of micro tourism businesses in the province of Pesaro and Urbino. The research shows that entrepreneurs in the province are aware of the importance of implementing policies aimed at sustainability, especially in the sense understood environmental and landscape. The policies adopted by local entrepreneurs are mainly concentrated on the management of recycling, energy efficiency, and use of local products.

These policies are often required or encouraged by public entities, although they also noted initiatives implemented voluntarily by local entrepreneurs.

The empirical survey shows that these actions are carried out at above the regional average, which offers a glimpse of virtuous conduct on the part of local tourism businesses. These innovations may represent innovations under different points of view:

- At the social level (new consumption patterns, new ways of conduct of the population, less waste, the culture of reuse, recycling, savings, renewable energy, etc.);
- At strategic and managerial levels (new entrepreneurial formulas for new business models);
- Linked to traditional services and products (water and energy saving, sustainable cuisine, local cuisine), or "products-experience" (e.g. the philosophy of slow living) and "transformations" (environmental education and sustainability, sustainable cooking classes, etc.) (see Pine and Gilmore, 2000).

Sustainable behaviors may also represent opportunities for tourism communication, using an approach that aims to enhance the symbolic meanings related to ecology and certifications to intercept new customer segments or to increase the perceived value of existing customers.

Despite the limitations of the research due to the small number of interviews and the limited territorial scope of the investigation, the work offers a conceptual model that analyzes the contribution of business tourism to the sustainability of territories reading through the key of innovation. According to this approach, new research perspectives are offered in relation to the contribution of the public sector, whose role emerges not only as a leader in the learning process and cooperation between actors (See Pencarelli and Splendiani, 2010), but also as innovators, by supporting policies for sustainability able to represent crucial stimulus for the start of innovation processes aimed at creating value for the regional system, through the maintenance of environmental, social and economic balance.

## References

- Abell D.F., 1986, *Business e scelte aziendali*, Ipsoa Scuola d'Impresa, Vol. VII.
- Bendell J., Font X., 2004, Which tourism rules? Green Standards and GATS, in *Annals of Tourism Research*, Vol. 31, No. 1, pp. 139–156
- Buckley R., 2001, Tourism Ecolabels, *Annals of Tourism Research*, vol. 29.
- Buhalis D., 2000, Marketing the competitive destination of the future, *Tourism Management*, Vol. 21.
- Crouch G.I., Ritchie B.R.J., 1999, Tourism, Competitiveness and societal prosperity, in *Journal of business research*, n. 44
- De Carlo M., Cugini A., Zerbini F., 2008, Assessment of destination performance: a strategic map approach, *Tourism Review*, vol. 63, n.2.
- Dini M., 2011, *Il governo sostenibile delle destinazioni turistiche: il caso della Provincia di Pesaro e Urbino*, graduation thesis, Urbino.
- Fyall A., Callod C., Edwards B., 2003, Relationship Marketing. The challenge for destination, *Annals of Tourism Research*, Vol. 30, n. 3.
- Furlan M.C., 2007, *Il marketing della destinazione turistica*, in Casarin F. (a cura di), *Il marketing dei prodotti turistici. Specificità e varietà*, Giappichelli, Torino.
- Golinelli C. M., 2002, *Il territorio sistema vitale. Verso un modello di analisi*, Giappichelli, Torino.

- Gummesson E., 1999, *Total Relationship Marketing. Rethinking Marketing management: From 4Ps to 30 Rs*, Butterworth-Heinemann, Oxford.
- Heunks F.J. 1998. *Innovation, Creativity and Success, Tourism. Small Business Economics*» 10: 263-272.
- Hjalager A. 2010. *A Review of Innovation Research in Tourism. Tourism Management* 31: 1-12.
- Hjalager, A.M., 1999, *Consumerism and Sustainable tourism, Journal of Travel & tourism marketing*, Vol.8 (3).
- Hughes G., 2002, *Environmental Indicators, Annals of Tourism Research*, vol. 29.
- Hunter C., Shaw J., 2005, *The ecological footprint as a key indicator of sustainable tourism, Tourism Management*, n. 28.
- Iannario M, 2008, *Marchi di qualità e turismo: verso una maggiore sostenibilità del mercato*, in AA.VV., *XV Rapporto sul turismo italiano*, Mercury, Firenze.
- Mihalič T., 2000, *Environmental management of a tourist destination. A factor of tourism competitiveness, Tourism Management*, n. 21.
- Miller G, Twining-Ward L., 2005, *Monitoring for a Sustainable Tourism Transition. The Challenge of Developing and Using Indicators*, CABI Publishing.
- Miller G., 2001, *The development of indicators for sustainable tourism: results of a Delphi survey of tourism reserchers, Tourism management*, n. 22.
- Nonaka I., Takeuchi H. 1995. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press: New York
- Normann R. 1992. *La gestione strategica dei servizi*. Etas Libri: Milano.
- Pencarelli T., Splendiani S., 2010, *Il governo delle destinazioni turistiche in una prospettiva di sostenibilità. Profili concettuali ed evidenze empiriche*, paper presented at 9th International Conference Marketing Trends, Venezia, 21-23 Gennaio.
- Pencarelli T., Fortezza F., 2010, *Il marketing delle esperienze fra specificità e tendenze evolutive: il caso Wish Days*, Paper discussed at 9th International Congress on Marketing Trends, Venice, 21th-23th January
- Pencarelli T., Gregori G.L., 2009, (a cura di), *Comunicazione e branding delle destinazioni turistiche. Una prospettiva manageriale*, F. Angeli, Milano.
- Pencarelli T., Forlani F. 2002, *Il marketing dei distretti turistici-sistemi vitali nell'economia delle esperienze*, in "Sinergie", n. 58.
- Pine B.J., Gilmore J.H., 1999, *The Experience Economy. Work is Theatre & Every Business a Stage*, Harvard Business School Press, Boston.
- Sasidharan V., Sirakaya E., Kerstetter D., 2002, *Developing countries and tourism ecolabels, Tourism Management*, n. 23.
- Schianetz K., Kavanagh L., Lockington D., 2007, *The learning tourism destination: the potential of a learning organization approach for improving the sustainability of tourism destinations, Tourism Management*, n. 28.
- Shaw G., Williams A. 2009. *Knowledge Transfer and Management in Tourism Organisations: An Emerging Research Agenda. Tourism Management* 30 (3): 325-335.
- Splendiani S., 2009, *Management della comunicazione e branding nei piani turistici territoriali: analisi comparata di quattro regioni adriatiche*, T. Pencarelli, G.L. Gregori (a cura di),
- Sundbo J., Orfila-Sintes F., Sorensen F. 2007. *The Innovative Behaviour of Tourism Firms – Comparative Studies of Denmark and Spain. Research Policy* 36 (1): 88-106.

Weaver D, 2000 “ A broad Context Model of Destination Development Scenarios, Tourism Management, vol. 21

Weidenfeld A., Williams A. M., Butler R.W. 2010. Knowledge Transfer and Innovation among Attractions. *Annals of Tourism Research* 37 (3): 604-626.

# **An Analysis of the Restrictions on the Competitive Readiness of Australian Businesses Due to Their Lack of Formal Quality Management Systems**

**Dr Lee E J Styger**

MBA Director

Sydney Business School

Bldg 232, IC Campus

University of Wollongong NSW 2522 Australia

Phone: +61 2 4221 3751

Fax: +61 2 4221 4709

Email: [lstyger@uow.edu.au](mailto:lstyger@uow.edu.au)

Small to medium sized enterprises (SME) employ 95% of the Australian workforce. Most of the organisations, employing most of the workforce, do not have any formal quality management systems. As such, Australian businesses, particularly SME's, have remained somewhat isolated in terms of operational and competitive readiness compared to their peers in other countries.

Based on research conducted in 2010, using a series of structured focus groups of logistics and supply chain professionals from a diverse spectrum of industries across a pan-Australian base, it has been determined that over 85% of the participants in the focus groups had no formal quality management systems within their own organisations or indeed within their immediate supply networks. Interestingly, most of the participants of the focus groups indicated that they thought formal quality systems would have a limiting factor on their operations.

Further investigation into organisations who were outsourcing products and services from Australian companies indicated that, post the Global Financial Crisis, there has typically been a change in policy, and most organisations are now precluding once qualified local suppliers because of their lack of formal quality systems. This decision is typically based around issues such as risk mitigation and further moves into more comprehensive corporate social responsibility.

This paper discusses this recent research and the implications of the widening gap in Australian supply and demand based on the lack of formal quality systems in a significant percentage of the supply base.

## **1.0 Introduction**

To quote the Australian vernacular, it has always been said that "She'll be right" if you own a coal mine, an iron ore mine or if you are part of a narrow band of industries supplying into the Australian commodities sector.

In common with most other suppliers into the commodities sector, in most other regions of the world, those businesses involved directly in commodities production in Australia typically possess world class quality management systems, however, this is not typically the case outside of the Australian commodities sector and a hand full of typically regulated

industries. It is the lack of good quality management systems that has contributed greatly to significant gaps and risk in Australian supply networks.

Competitiveness and business sustainability is based around an organisation possessing a robust supply network that is encompassed by a formal quality management framework. The supply network will now have a mature view of project management, encourage and embrace innovation and value and develop knowledge capital. Alongside being customer centric, the quality management framework of competitive organisations must now incorporate triple bottom line principles (Carter & Rogers 2008) and consensus within the supply network (Styger 2009a).

Whereas many companies globally appear to be using a formal quality management framework to maintain competitiveness and indeed build a sustainable future, there is evidence to suggest that this is not a prevalent strategy within many Australian grass roots suppliers.

## **2.0 Contextual Framework of Australian SME's**

Definitions of an SME vary greatly from country to country and sometimes from support agencies within a country. Within the Australian context, an SME is defined as an organisation employing less than 50 people (Anon 2008). Remarkably, 85% of all Australian non agricultural business (i.e. four out of five businesses) are classified as microbusinesses (i.e. employing less than five people) which generates significantly more risk and also diversity into a supply network (ABS 1998 and Dawson, Breen and Satyen 2002).

The geography and demographic of Australia is such that traditionally, Australian markets and therefore companies have typically operated within a small, local radius. Local operation has been due to Australia having a land mass comparable to that of Europe with a population comparable to London. Historically, there has not been a sufficiently large market to attract global players en-mass, who in turn inject competition and choice into the market. The larger players who have become established in Australia over time have typically developed an imperialistic presence in the market. As such, Australia has evolved a unique "small town large country attitude" that is has sufficed well until recent times.

## **3.0 Background to the Work**

The core data for this paper was derived from three programs of work, these were:

1. Initial pilot studies
2. A series of focus groups
3. Field observations and interviews

### **3.1 Initial Pilot Studies**

The initial pilot studies that triggered this work consisted of a series of focus groups conducted as a part of local area industrial support groups who were tasked with improving the international competitiveness of Australian SME's. During the focus groups, two relevant discussion points were tabled to the focus groups, these were:

1. What is quality?

## 2. Why do you not have formal quality management systems?

### 3.1.1 What is Quality? - The Perception of Quality in Australian SME's

The responses to the question “What is quality” delivered a series of subset responses from the focus groups that may be summarised as:

- Material performance
- Standardisation of product
- Robust product manifestation
- Customer satisfaction
- Cost efficiency
- Brand image
- Product specification

Whereas any or indeed all of these tag responses were somewhat predictable, it became apparent that few participants had any formal methodologies for measuring, reporting and improving these elements of their businesses.

### 3.1.2 “Why Do You Not Have Formal Quality Management Systems?” - Resistance to Formal Quality Management Systems In Australian SME's

On the basis that formal quality systems would help them manage key aspect of their business, the focus groups were then asked to explain why they did not have formal quality management systems in their organisations. A process of MindMapping (Buzan 2005), was conducted to understand the interrelated complexities of the responses from the participants (see Figure1.0).

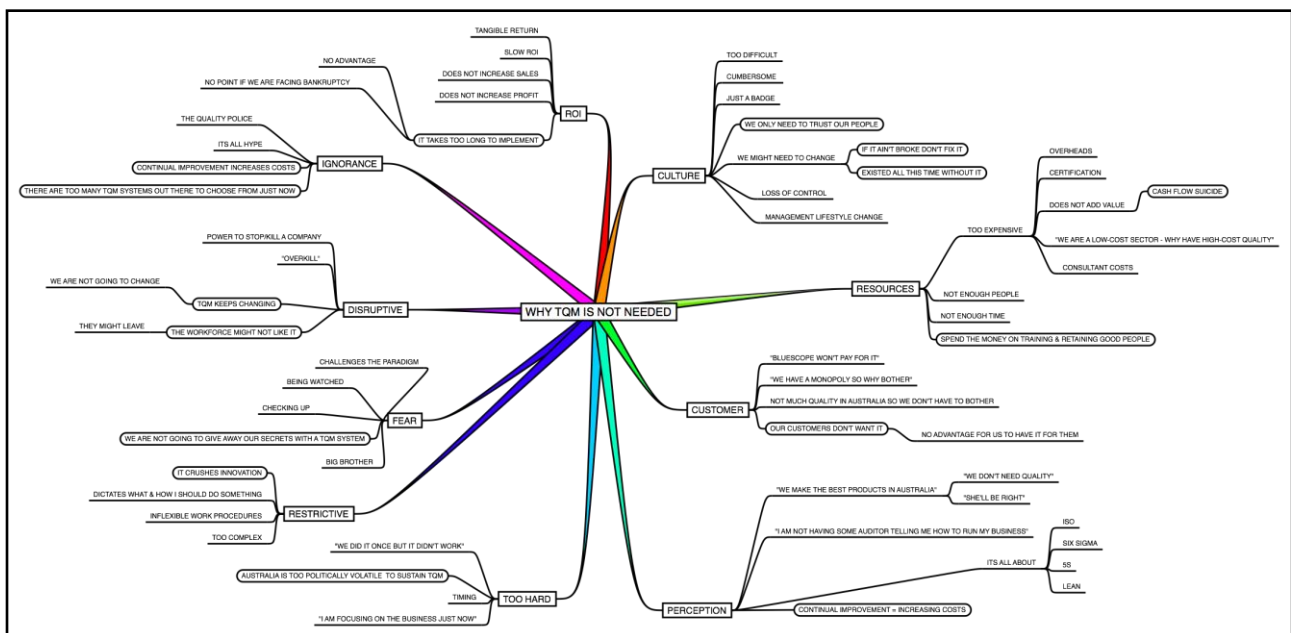


Figure 1.0 - MindMap of the Responses from the Focus Groups Regarding the Questions “Why Do You Not Have Formal Quality Management Systems”

Fundamentally, ten key response subsets were identified within the focus group participants, these are:



1. **Culture** - Participants genuinely felt that they had significant knowledge about their business, their employees and suppliers and therefore did not need to formalise processes. Furthermore, longevity and control were key players in individual management identity that were thought to be at risk of being surrendered if formal quality systems were employed.
2. **Resources** - Quality was seen by most participants as a high cost exercise that could impact adversely on their profitability. It is important to remember that most businesses were owner operated and profit equated to pay for many of the participants. Furthermore, the diversion of already stretched human resources was perceived to be one more obstruction to the task of making money.
3. **Customers** - One interesting observation by some participants who were focused solely on one customer, was that that customer would not pay for the introduction of formal quality management systems. In effect, there was a suggestion that a subservient feudal system operated within the supply network. This was backed up by an argument based on customers actively discouraging the SME from having quality systems, because the SME might then be able to find new customers.
4. **Perception** - There was a genuine pride by the focus group participants in their business and the output of their business. Whereas this is an admirable trait, it did present a barrier in terms of the perceived interference from external parties (i.e. consultants and quality auditors), and a perception that continual improvement would equate to continual cost increases. One pointer in the responses was a belief by many participants that they made the best products in Australia, suggesting that many participants might be in denial concerning the impact of overseas products in their marketplace.
5. **Too Hard** - There was an underlying message that many businesses had attempted to introduce formal quality systems at some point, but the process became too cumbersome and/or the timing of the introduction was wrong. Importantly, one point to be raised by the participants was that Australia is too politically volatile to support and sustain formal quality management ethos within the grass roots businesses of the Country. On further investigation, it became apparent that there was genuine concern in the focus group participants regarding short-term views and political agendas within the Country that significantly impacted on longer range investments by the business owners (i.e. true investment for true business sustainability was “hampered by political rhetoric and saber rattling” of the Australian political system).
6. **Restrictive** - Australian businesses have traditionally been good at innovating to survive. This has been driven by the geographical remoteness of the country, regions and indeed markets they have served. There was a genuine concern by the focus group participants that formal quality systems would restrict agility and innovation capability within the businesses.
7. **Fear** - The latent and kinetic innovation capability within Australian SME’s is based on a fine mix of tacit and intellectual knowledge capital. From the focus groups responses, it would appear that there is a cultural axiom that is centred around formalising knowledge systems that records (“tangibilises”) the process and therefore enables knowledge theft. Effectively it would appear that many Australian SME’s have evolved a modern equivalent to European medieval liveried guilds to protect their ability to trade (i.e. knowledge openness provides a method of knowledge wastage).
8. **Disruptive** - Formal quality systems were viewed as disruptive to the work force, because quality systems and requirements keep changing (regardless if this is customer led), and the changes in the systems might upset the workforce causing them to move on. As such, quality systems were typically viewed as a business killer.

9. **Ignorance** - Participants viewed formal quality systems with suspicion, they believed that their own business was different and any formal system would not fit their business model. Importantly, they also believed that there were too many formal systems “in the market” to choose from and the “Quality Systems Market would rationalise over time and the cost would come down” effectively allowing them to choose a cheaper quality management system at that point.
10. **Return on Investment** - It was argued by the participants that formal quality systems were slow to implement, did not increase sales and had no commercial advantage in the current business environment, however, this is perhaps where the greatest single disconnect occurs in the strategic direction for many Australian SME’s (see section 3.3 below).

The four key quotes for the focus groups epitomize the axiom of reasoning against formal quality systems, these are:

- “We don’t need formal TQM, because it will conflict with our internal systems”
- “I am going to do it my way” (or as it became known in the research teams vernacular “Franks’s song”)
- “Quality is not an imperative, but rather a consideration for success”
- “All we need is strategic commonsense”

### **3.2 Structured Focus Groups**

The initial work indicated that there was a significant disconnect between the ethos of modern quality management and the perception of quality management in Australian SME’s.

In an attempt to generate qualitative data around the initial focus group responses, a series of focus groups was conducted with a wider group of participants. The program was promoted using a series of databases and advertisements in the public electronic and print media. Participants were asked to pre-register for one of a series of regional focus groups. As such, the sample set can be determined to be a random (or as near as is possible) representation of Australian business (Gill & Johnson 2010). It should be noted that each business had their own supply base and was involved in at least one traditional customer supply network, as such had a business (quality) system, and were therefore qualified to take part in the study (Bryman & Bell 2007) . Furthermore, all participants were senior officers within their organisations and as such were involved in the strategic aspects of their business, including quality management responsibility.

A series of three clustered diagnostic exercises were included in a program of work and were designed to generate data specifically focused on quality management principles. The diagnostics were:

1. Customer focus and product realisation
2. Continual improvement
3. The use of performance matrices

#### **3.2.1 Customer Focus and Product Realisation - Transaction and Interaction Capability within the Supply Network**

Two diagnostics exercises were used to map how the participants believed they were communicating and transacting within their networks and how well their suppliers were

communicating and transacting with them (i.e. customer focus, product realisation). This exercise appeared to be challenging for many participants because they wanted to be removed from the process of sales (customer interface), somehow believing that is was “dirty”.

- 84% of participants were rated as being poor at corporate communications between themselves, customer and suppliers
- 13% of participants were good at communications and selling
- 16% of participants believed that their suppliers were good at communicating and selling to them

### **3.2.2 Continual Improvement - Developing LEAN Principles**

LEAN principles (i.e. continual improvement) were discussed within the study, the findings are shown below:

- 90% of participants thought the concept of LEAN would be useful in their organisations
- 10% of participants thought they could actually introduce LEAN principles into their organisation, the main barrier to introduction being internal cultural axioms
- 12% of participants were using some aspects of LEAN
- 11% of participants recognised that they were operating within a formal quality management system
- 6% of participants were operating within a formal, externally audited, quality management system

### **3.2.3 The Use of Performance Matrices**

Two further diagnostics were offered to the participants in order to establish how they were currently performing within their supply network and what they needed to do to improve and sustain performance. Fundamentally, these two diagnostics were an extension of developing LEAN principles and a quality focus. The findings are shown below:

- 12% of participants attempted both performance matrices exercises
- 50% were able to collate an answer regarding basic supply chain management performance measures
- Of the 50% who attempted the exercise, the average performance rating was 40%

Overall, it was established that whereas business data was collected in all participants, analysis of much of the data was superficial and did not trigger improvement within the business.

### **3.3 Barriers to Competitiveness - Field Observations and Interviews Following on from the Focus Group Activities**

Post the focus group element of the work, a series of interviews were conducted with senior managers in traditional OEM's with a view of understanding the implications of the focus group findings on the OEM (typically end customer) businesses.

Most of the interviewees indicated that their organisations had been experiencing an increase in "negative contribution" within "invisible sections or lower level, smaller and typically insignificant, suppliers" (i.e. typically SME's, the focus of this work, were not contributing to the overall wellbeing of the end customer).

A consistent pattern of future supplier engagement was also forthcoming during the interviews. The pattern consisted of four key points, these were:

1. **Move to Larger Lower Risk Suppliers** - the interviewees stated that they were now seeking larger organisations to supply to them because they were perceived to present less risk within the supply network
2. **Need for Transparency** - transparency and traceability within the supply network was considered to be a significant issue for companies seeking sustainable supply
3. **Need for Systems** - because of the need for transparency, traceability and also consistency, interviewees stated that they now required formal business and quality management systems to be embedded within their supply networks
4. **Need for Continuation of Supply** - one of the key drivers was continuity of supply, typically summarised as "right - on time - every time"

#### **4.0 Moving From Quality Product into Quality Thinking**

There is no evidence to suggest that there is typically anything amiss with the specification and manifestation of Australian products. Australian products are typically fit for purpose (within their market landscape) and delivered to specification. However, culturally, many Australian SME's appear not to have moved their perception of quality from a standards and operational rulebook into a customer focused philosophy. Indeed when presented with a foundation business model such as the "Quality Triangle" (Styger 2009b) many leaders of Australian SME's appear unable to quantify their customer base first, and then work around the triangle to develop robust customer centric solutions to fundamental customer needs (see Figure 2.0).

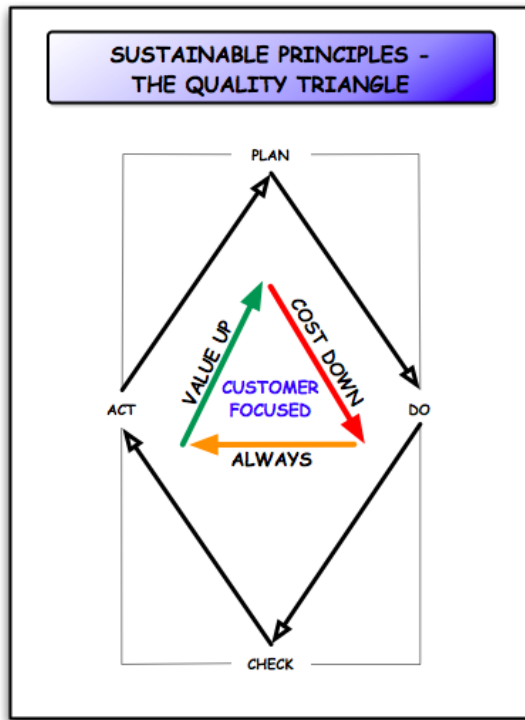


Figure 2.0 - A Foundation Business Model, the Quality Triangle

By maintaining an old world axiom of quality, many Australian SME's appear to be more product centric than they are customer centric. This creates a misalignment with the customer and a "Product Driven vs Customer Driven Forcefield" (see Figure 3.0) is often generated that forces customers to seek new suppliers.

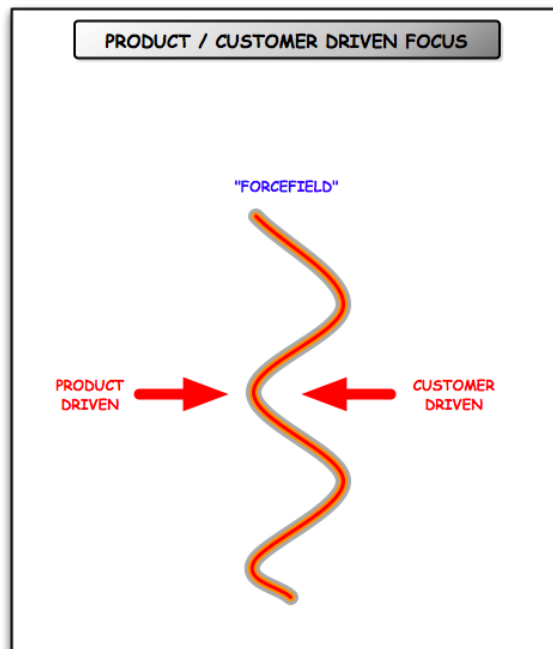


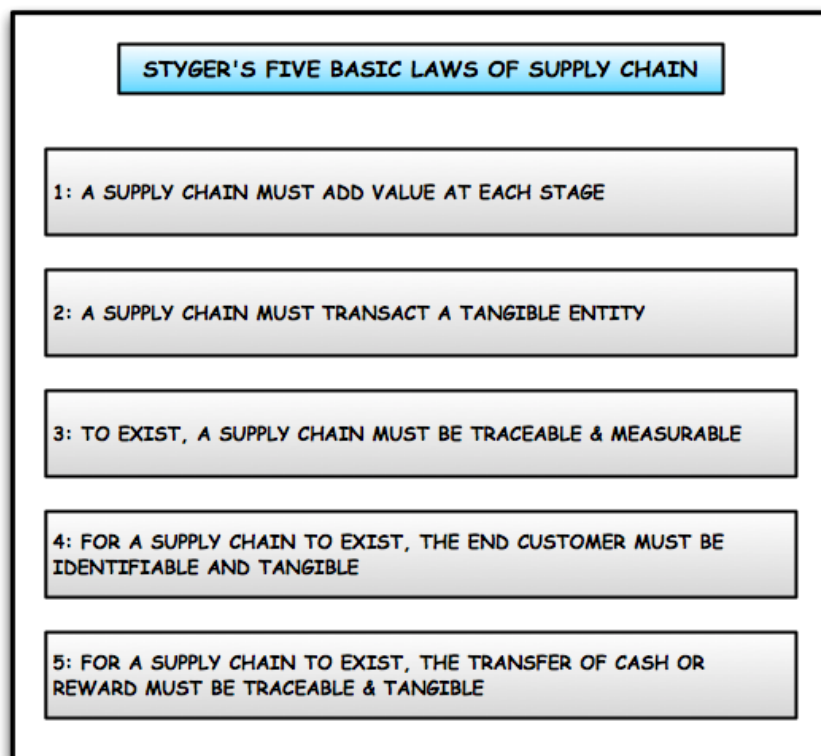
Figure 3.0 - Product / Customer Driven Forcefield

"No one pays for knowledge", as illustrated in Figure 4.0, there needs to be a tangible product and transaction of tangible goods or services with in business (i.e. any business model must be able to satisfy the Five Basic Laws of Supply). As a principle, tangible exchange has been well recognised within many traditional Australian business sectors, who, even during the height of the .coms, and www. connectivity booms, have remained

firmly focused on “delivering the goods”. This stalwart approach has had two interesting effects with the external perception of Australian SME’s, these are:

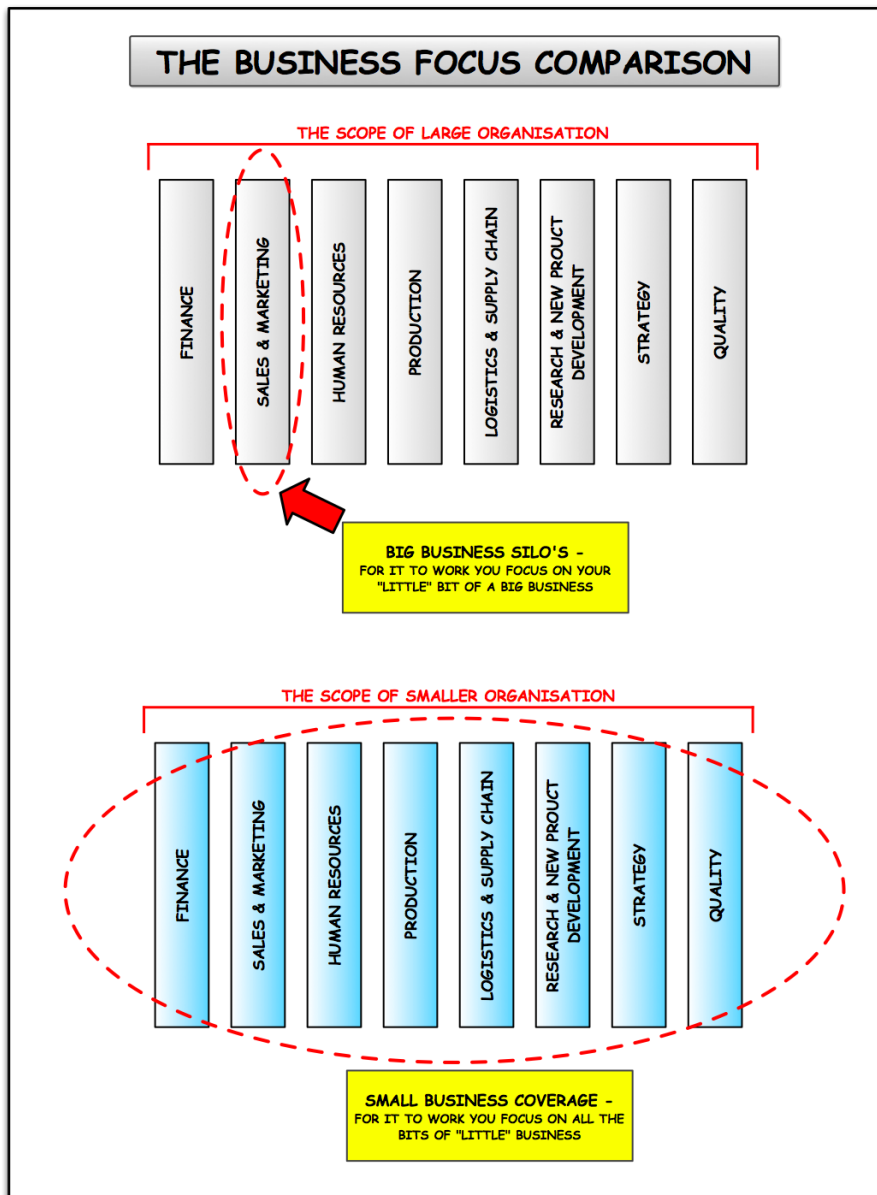
1. Claims that Australian SME’s lag behind other SME’s globally in their take up and exploitation of technology (regardless of any measure of need and/or effectiveness of technology with the business context)
2. The devaluing and almost outlawing of many knowledge centric SME’s (i.e. specialist consultancies, coaching services etc.), resulting in a business regeneration and innovation gap in Australian businesses that is present now and likely to remain so into the future

The combination of the above two points has, even in strong financial times, limited the supply of investment into entrepreneurial businesses, because they have been perceived as too traditional or too abstract in their market positioning.



**Figure 4.0 - The Five Basic Laws of Supply**

Fundamentally, because of Australian business dynamics (i.e. small local supply and operation separated by large expanses of geography), Australian SME’s have typically evolved away from traditional structures. Even business structures within larger SME’s remain sufficiently flat and “close enough to the money” (end customer) that even when operational silos exist, corporate knowledge is more openly shared and accessed regularly (see Figure 5.0).



**Figure 5.0 - A Comparison of Operational Focus Between Large and Small Business**

One of the greatest knowledge depositories currently is held within Australian SME's. Currently the challenge is to establish how to operate outside of traditional silos and structures and into holistic enterprises that in turn generate great wisdom. However, accessing and capitalising on the wisdom inherent in the grass roots of business is somewhat fragmented at best, however it is this holistic knowledge that delivers competitive wisdom (see Figure 6.0).

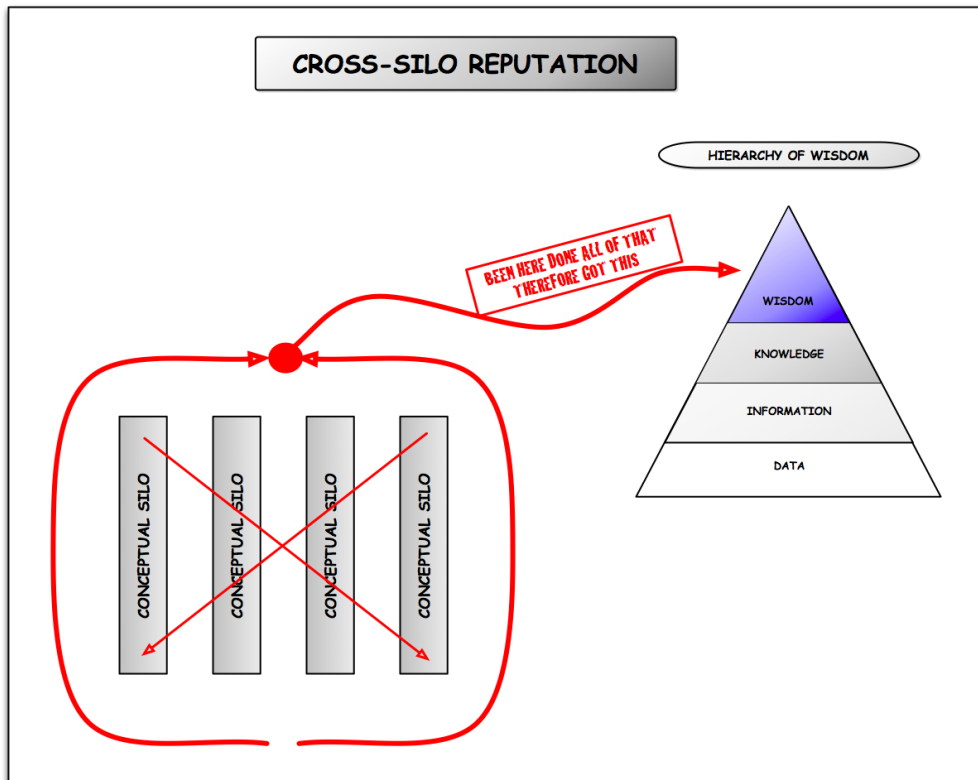


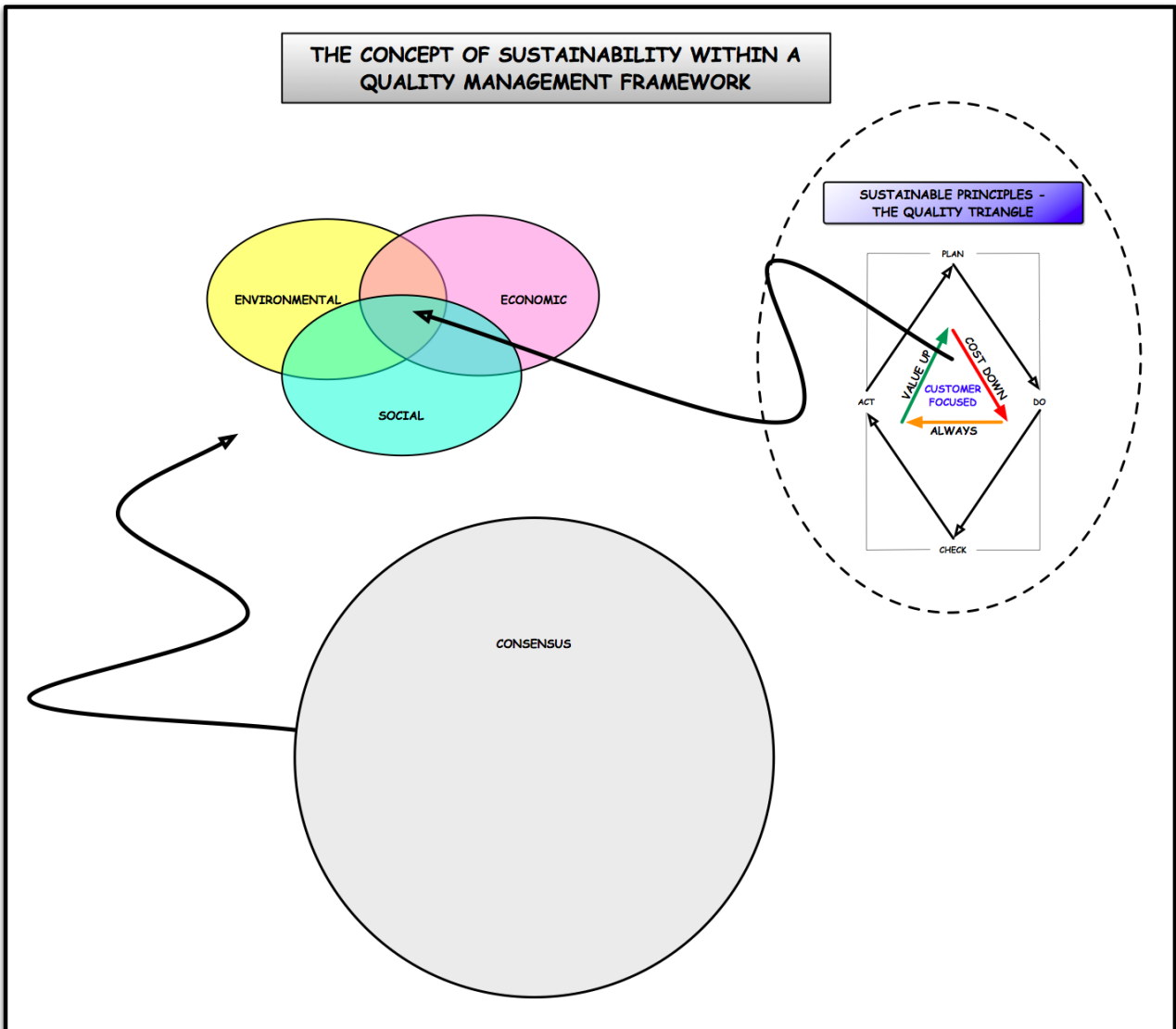
Figure 6.0 - Cross Silo Reputation Delivers Competitive Wisdom

## 5.0 Extending Sustainability to Include a Quality Management Framework

There has been significant interest in the concept of sustainability within business for some time. The work of Carter and Rogers (2008) has been seminal in focusing the minds of the business community outside of simple “green wash” and into a state where real and lasting business models can exist within a socially responsible context. However, Carter and Rogers have effectively missed a trick with their triple bottom line accounting model by not including consensus (i.e. organisational and enterprise wide agreement on the methods of execution of the framework) (Styger 2009a) .

Furthermore, the concept of customer lead sustainability fits well within a quality management strategy and a cost down value up ethos that benefits both the customer and the organisation equally. As such, sustainability modelling into the future should include an element of customer centric thinking. It is reasonable to suggest that the combination of all three elements (i.e. triple bottom line accounting, quality triangle and consensus) (see Figure 7.0) should be combined to form a more applicable model of Customer Lead Sustainability (see Figure 8.0).





**Figure 7.0 - Adapting the Concepts of Sustainability and Quality Management**

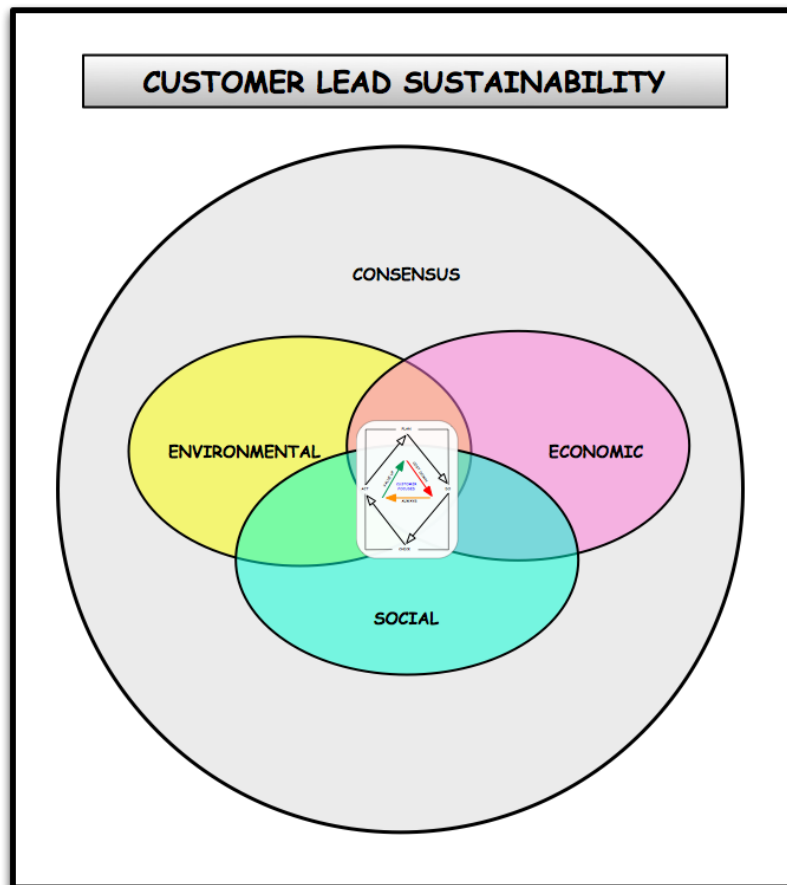


Figure 8.0 - The Customer Lead Sustainability Model

## Conclusions

Until recently, unique market and geographic dynamics have protected many Australian SME's well. Formal quality management systems have typically been excluded from Australian SME's, as they have evolved a modern day equivalent to European Medieval liveried companies, that in many ways has encouraged a parallel evolution of business operation and engagement compared to the rest of the world (a not dissimilar scenario to the way in which Australian wildlife has evolved in isolation to the rest of the world). However, more recently, changes in supplier engagement and risk mitigation by OEM's has delivered a significantly different paradigm into the Australian supply base that now places direct demand and engagement thresholds on Australian SME's where the requirement for formal and transparent quality management systems, typically within a sustainable context is central to competitiveness.

It is likely that many Australian SME's will not be able to adapt to the new demands placed upon them by their customers, this is likely to be due to basic business culture, the size and capacity of the the SME to transform whilst still remaining solvent. As such, it is likely that there will be a reduction in the number of suppliers capable of delivering into existing supply networks (which perhaps they once did deliver into) because of the lack of formal quality management systems. OEM's will look elsewhere for competent suppliers who satisfy their needs and critical mass will be lost in local supply clusters, further reducing competitiveness.

## Recommendations for Further Work

At first sight, it might be reasoned that, due to the unique contextual dynamics of Australia, then the findings from this work typically only have impact within that Country. However, recent work within the Sustainable Supply Chain Group, at the Sydney Business School, has indicated that similar dynamics exist in other Asian countries. As such, it is recommended that further similar studies be conducted to establish if this is an Australian / Asian phenomenon or if lack of formal quality management frameworks are prevalent and impacting on the competitive readiness of other regions.

## References

- Anon (2008). "Small and Medium-sized Enterprises and Responsible Business Practice", Allen Consulting Group, St. James Ethics Centre, Sydney, Australia
- Buzan, T (2005). "MindMap Handbook", Thorsons, Harper Colins. ISBN 978-0-00-720598-1
- Bryman, A and Bell, E (2007). "Business Research Methods", Oxford University Press. ISBN 978-0-19-928498-6
- Carter, C & Rogers, D (2008). "A Framework of Sustainable Supply Chain Management: Moving toward New Theory", International Journal of Physical Distribution & Logistics Management, vol. 38, no. 5, pp. 360-387
- Dawson, S., Breen, J. and Satyen L (2002) "The Ethical Outlook of Micro Business Operators", Journal of Small Business Management, Vol 40, No. 4, pp. 302-313
- Gill, J and Johnson, P (2010). Research Methods for Manager, Sage. ISBN 978-1-8478-093-3
- Styger, L (2009a). "The Live Monitoring of Carbon Emmissions for Sustainable International trade and Exchange", Central Region Engineering Conference - CREC 2009, 14-15 August, Rockhampton, Australia
- Styger, L (2009b). "Perspectives on Supply Post the Global Financial Crisis", Wiggly Tin Company. ISBN 144 996 797 3

**SPIN-OFF FOR THE MANAGEMENT FOR THE QUALITY AND  
INNOVATION IN THE UNIVERSITY OF OVIEDO.  
TECHNICAL OFFICE FOR QUALITY AND INNOVATION (TOQi).**

**Alberto A. Suárez<sup>1</sup>, Javier Alonso<sup>2</sup>, Ramiro Martís<sup>2</sup>, Pablo Albañil<sup>1</sup> & Miguel Pascual<sup>1</sup>**

**Abstract.**

The basis for the study is the creation of a spin-off within the University of Oviedo to exploit the know-how acquired in recent years in quality plans by Technical Unit for Quality staff at the University of Oviedo.

The spin-off has also been created to develop the themes of Quality and Innovation to help the Universities in the process of adaptation to the European Higher Education and support to SMEs and organizations in questions of continuous improvement through the design and implementation of Management Systems.

The main objective is to offer an innovative alternative for service providing and personnel management in University Services.

The main results of the project are: the creation of 3 jobs, establishment of the Know-How transfer agreement between TOQi and the University of Oviedo, a catalogue and website of the spin-off, the establishment of 11 agreements with organisations, etc.

This practice is included in the Telescopi network Observatories' Network on Best Practices for the Strategic Management in Latin America and Europe 2011.

**Keywords:**

Spin-off, Quality and Innovation, Management Systems, Know-How, the European Higher Education Area.



*The contact details of TOQi are codified  
using code BIDI.*

*Bidi Code is a two-dimensional code made  
up of black and white squares that contain coded  
information.*

<sup>1</sup> University of Oviedo, Technical Unit for Quality, Principado, 3, Entresuelo, 33007 Oviedo (Spain).  
<http://www.uniovi.net/calidad/> [suarez@uniovi.es](mailto:suarez@uniovi.es)

<sup>2</sup> TOQi - Technical Office for Quality and Innovation, University of Oviedo, [toqi@toqi.es](mailto:toqi@toqi.es) Catedrático  
José Serrano, 10, 2º E. 33006 Oviedo (Spain). [www.toqi.es](http://www.toqi.es)

# 1. Introduction.

The term “spin-off” expresses the idea of creating new businesses within other existing companies or organisations belonging to the public or private sector that act as incubators. Spin-offs eventually acquire legal, technical and commercial independence. Also known as Technology-based Companies, they are often linked to universities and contribute to the transfer of scientific findings and/or knowledge from these to society in the form of innovative products and services.

Spanish Law 6/2001, of 21<sup>st</sup> December, concerning universities has sought to boost university knowledge transfer. It is also the first Spanish law to refer to the creation of technology-based companies within universities. Knowledge transfer from universities to firms is one of the cornerstones that underpin the European Innovation Policy [1]. Law 4/2007 [2], April 12, amending Law 6/2001, introduces amendments to define the transfer of know-how to society as a basic function of universities.

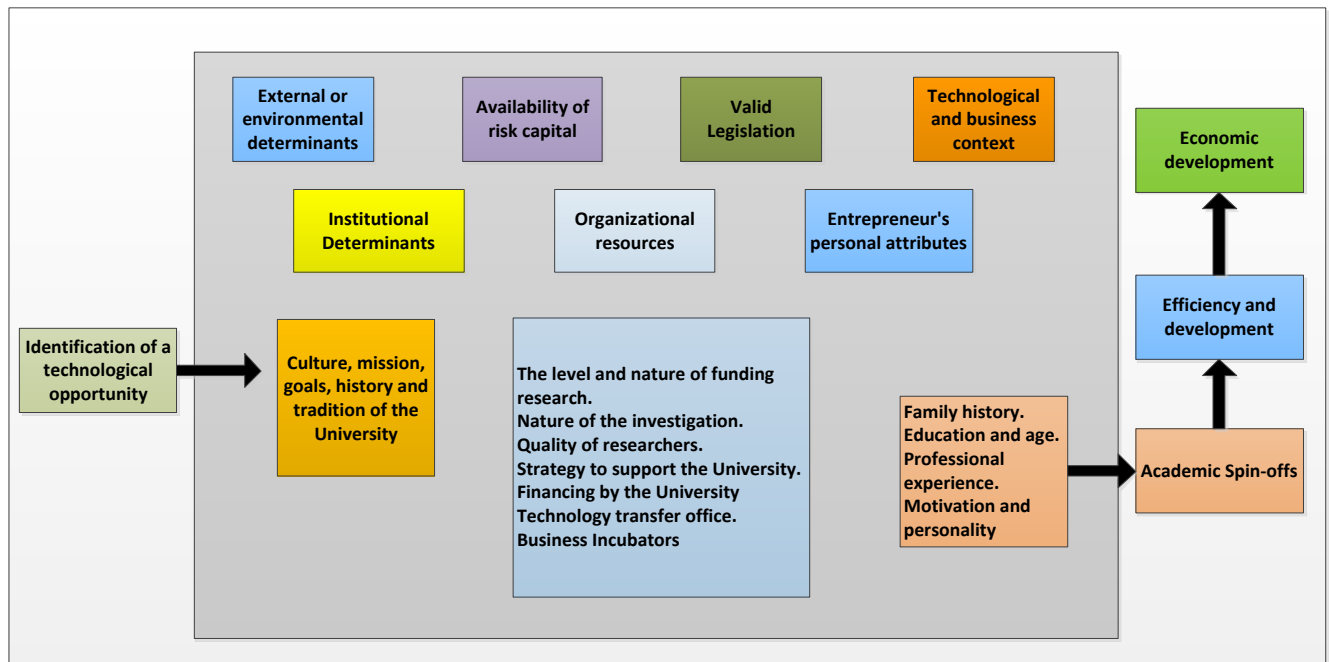


Figure 1. Determinants of the generation of academic spin-offs.

Elaborated by the authors on the basis of O’Shea et al (2007) [3].

Article 35 of Spain’s Science, Technology and Innovation Law 14/2011 [4], of 1<sup>st</sup> June, establishes the guidelines for the valuation and transfer of knowledge. Article 84 likewise establishes the features for creating foundations and other legal entities: “To promote and develop their goals, Universities, alone or in collaboration with other public or private entities, with the approval of the Board of Trustees, may create companies, foundations or other legal entities in accordance with general legislation”.

Innovation, human capital and entrepreneurial activity in general and the creation of knowledge-based companies in particular have accordingly taken on special importance [5] within the context of a changing society and adopted measures must be aimed at fostering environments that encourage knowledge transfer, such as networks, spin-offs, patents and licences [6].

As can be seen in Figure 2, the evolution of the creation of spin-offs in Spain is slow. Despite the upturn in the number of academic spin-offs in 2009, their weight remains small and the studies carried out show that it is necessary to introduce additional mechanisms to stimulate their creation.

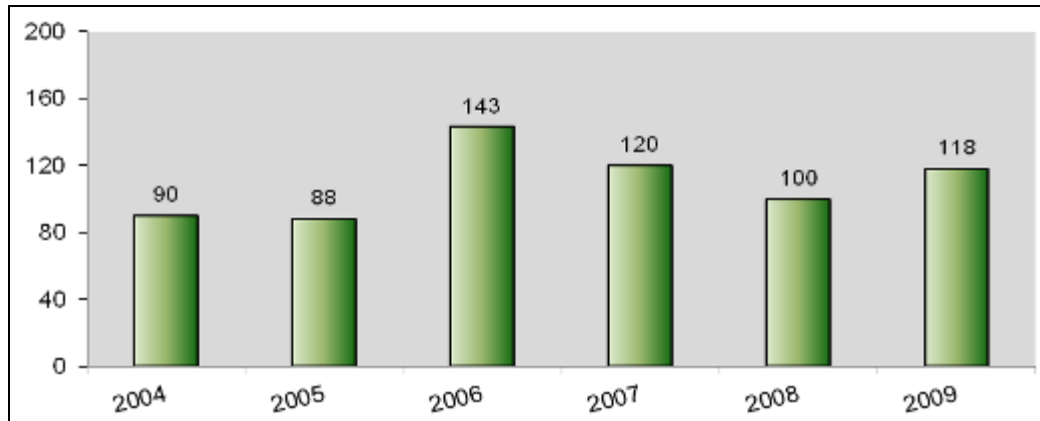


Figure 2. Evolution of the creation of spin-offs in Spain.

*Elaborated by the authors on the basis of the REDOTRI 2010 report (Source: RedOTRI 2004-2009 Survey)*

The Spanish universities with more spin-offs in 2009 were the Polytechnic University of Madrid, the Universities of Granada and Almeria, the Polytechnic University of Catalonia and the University of Seville.

### 1.1. Technical Office for Quality and Innovation (TOQi).

Within the University of Oviedo, a **spin-off** [8] [9] [10] [11] was created to exploit the know-how acquired in recent years in the Quality and Innovation Plans managed and executed by the University. The spin-off was created to further the themes of Quality and Innovation, to help universities in the process of adaptation to the European Higher Education Area (EHEA) and to support SMEs and organisations in questions of continuous improvement through the design and implementation of Management Systems and in the reengineering of their service-providing processes. It is also an innovative spin-off due to the area of specialisation within which it is located.

The name of the spin-off is the **TECHNICAL OFFICE FOR QUALITY AND INNOVATION (TOQi)**.

### **Features of the spin-off:**

- Created from the **Process Management technology** developed by the Technical Unit for Quality.
- Arising from within the university.
- Established with the participation of university staff and with the backing of the academic institution.
- We maintain close links with the academic institution of origin (University of Oviedo).
- We are flexible, innovation-based and adaptable to change.
- We provide goods and services with high added value.

### **TOQi's Mission:**

Professional services in Quality and Innovation whose scope includes universities, SMEs and organisations (both national and international) with the ultimate goal of improving management, processes, products and services.

### **Vision:**

To be a referral service for the entire university community in questions of management and assurance of excellence in the field of Higher Education. To be a reference for SMEs and organizations in terms of quality and innovation at a National, European and International level.

### **Our values:**

- Young company with highly qualified professional staff.
- Ability to respond to new obligations and tasks.
- Result-oriented, with a strict adherence to deadlines.
- High value-added services.
- Planning and monitoring of activities and projects.
- Permanent, personalized attention to stakeholders.
- Partnerships with strategic organisations in the Spain.

## 2. Case report.

The starting out situation for the creation of the spin-off was the **Technical Unit for Quality (UTCAL) at the University of Oviedo**. The Technical Unit for Quality was created in June 2000 with the aim of promoting the pursuit of Quality, Innovation and Continuous Improvement of the University System through the on-going analysis of Teaching, Research and Service activities at the University. In the ten years it has existed, the UTCAL has contributed decisively to promoting and expanding the culture of Quality and Continuous Improvement in University Policy and has become a benchmark “in quality management” within the university community [12]. The UTCAL has provided technical support throughout these years to all the units which have participated in the Quality Plans concerning Degrees, Departments, Services, Centres, etc.

It has also been a key player in meeting the quality requirements demanded by the Spanish Assessment and Accreditation Agency (Spanish acronym, ANECA) in the verification process of the new degrees at the University of Oviedo for their adaptation to the EHEA, its main objectives being to promote Quality at the University of Oviedo and to ensure improvement in the new Bachelor’s and Master’s degrees. The UTCAL has also collaborated with Asturian as well as national organisations and SMEs in the design and implementation of management systems and other University-Business projects.

UTCAL staff at the University of Oviedo have learned to manage and implement Spanish University Coordination Council and ANECA **quality plans** and to promote Quality initiatives within the University and its organisational units (Centres, Departments, Services, Institutes, etc.). This is a know-how of significant value for the implementation and improvement of Internal Quality Assurance Systems (IQAS) within the context of the new European Higher Education Area degrees and which constituted the basis for the creation of TOQi spin-off. In addition, the mechanisms of personnel management at the University are cumbersome and do not guarantee sufficient continuity of personnel to perform these activities. This can produce a situation in which this valuable know-how ends up getting lost and not being used in the University’s benefit.

The creation of spin-off was consequently considered a good opportunity to retain this know-how and represents an improvement for the staff that will form part of the spin-off. The idea of the spin-off is to continue within the University of Oviedo at first, providing high value-added services to make itself known and to seek out new customers with the aim of growing at both a regional and national level.

### 2.1. Creation of the Spin-Off.

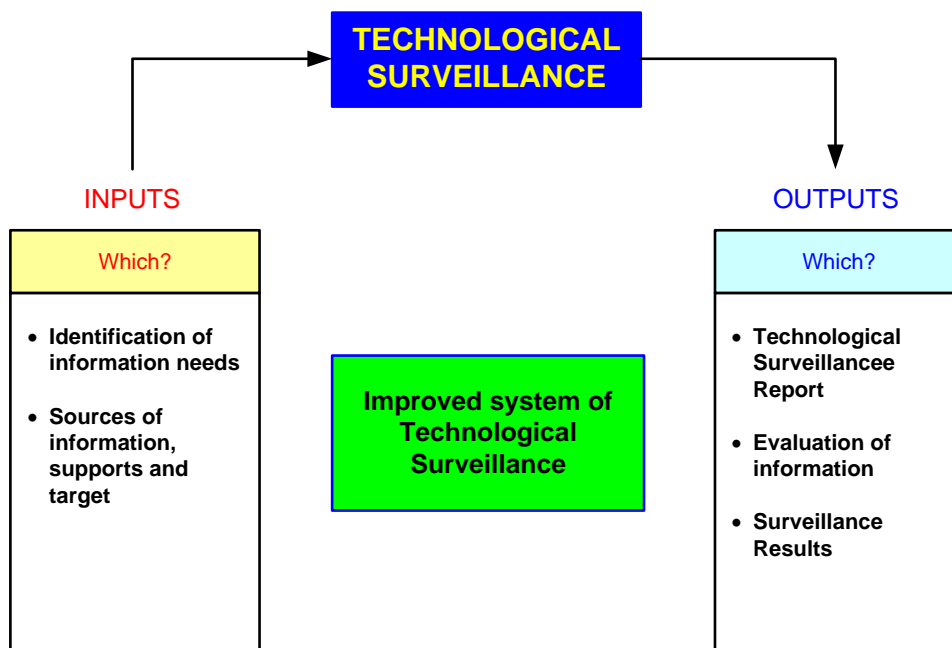
The spin-off was created as a **sustainable alternative** to non-stable recruitment mechanisms at the University which did not ensure the continuity of people in a work context in which this factor is decisive for the provision of a service in matters of Quality and Innovation.



The interaction of creativity with the conditions of the university environment has supposed an opportunity around which a service provider has been created [13] [14].

This is an innovative initiative (a spin-off in the field of Quality and Innovation consulting services) that also involves risk, as it does not involve a specific material technology.

The framework within which to implement and develop this Innovation Project has comprised the Spanish standards UNE 166.002:2006 requirements for R&D and Innovation Management System [15] and UNE 166.006:2006 Technological Surveillance System [16]. First, a thorough technological surveillance was carried out in the field of quality management in line with the scheme of the standard UNE 166.006:2006, represented in the figure below:



*Figure 3. Schematic summary of technological surveillance.*

The actions taken to create the spin-off are summarized below:

- Search for information, drawing-up of a technological surveillance report and development of proposals for the establishment of a spin-off to the Management Team of the University of Oviedo.
- Procurement of the main office and administration of equipment (mobile phone, blackberry, laptop, signage, stationery, etc.).
- Preparation of documentation for tender in accordance with the specifications of technical requirements for University of Oviedo technical assistance services.
- Planning and implementing of outreach activities to publicize the services provided by the spin-off.

TOQi has its own infrastructure:

TOQi. Technical Office for Quality and Innovation.

Catedrático José Serrano, 10. 2º E. 33006 Oviedo. Asturias

Telephone: 985 966 014. Mobile: 607 601 601. Fax: 985 966 032

[www.toqi.es](http://www.toqi.es)

[toqi@toqi.es](mailto:toqi@toqi.es)

## 2.2. Organization chart.

The technical staff has the following characteristics:

- Multidisciplinary team: PhDs, Graduates and Engineers from different fields of knowledge.
- More than eight years' experience as Quality Technicians in the University of Oviedo Technical Unit for Quality (UTCa).
- More than five years' experience in Strategic Management Consultancy, improving Organisational Management and improving the Providing of Services and Product Manufacturing.
- Training in standards related to Systems Management, Process Management, Auditing and Models of Excellence by the Centre for Quality in Asturias.
- Accredited Assessors on European and Latin American Excellence Models.
- Spanish Association for Quality Innovation Managers.
- Experience in R&D and Innovation management within the framework of the Principality of Asturias Plan for Science, Technology and Innovation and European Programmes.
- Reinforcing its technical background, the staff of the spin-off has extensive experience in University-Business project management and execution.
- Also worthy of note is the practical nature of the training imparted by the staff of the spin-off, with more than 15 courses and workshops organized in the last four years.
- The development of software applications that support the Management Systems designed by the spin-off is another of its strengths.
- In recent years, more than five applications have been developed for the Units, Services, Institutes and Centres at the University of Oviedo with whom we have collaborated.

### 2.3. Services.

- Consultancy, development, implementation, maintenance of Quality, Environmental, Occupational Health and Safety and Innovation Management Systems or any other system applied to universities, organisations, institutions and companies in general.
- Technical reports for universities and business.
- In-person training and networking in the areas of Quality, Environmental Management, Health and Safety, Innovation, Strategic Planning, etc.
- Drawing up of National and European project proposals.
- Events Management.
- Development of applications and software solutions that support the efficient management of organizations.
- Advice on Engineering projects.

The services provided by TOQi are divided into two distinct parts:

- Professional Services in matters of Quality and Innovation for Universities, Companies and Organisations.

An innovative methodological approach is employed to implement the processes which deploys thirteen levels of management.

The main steps of this approach are:

- Planning: horizontal flowcharts of the main activities and an array of 13 vertical levels, including all the necessary information to ensure tracking of the process.
- Execution: implementation phase.
- Tracking: by means of indicators.
- Actions: Review of the system by Management.

The figure below presents a graphic description of the approach developed.

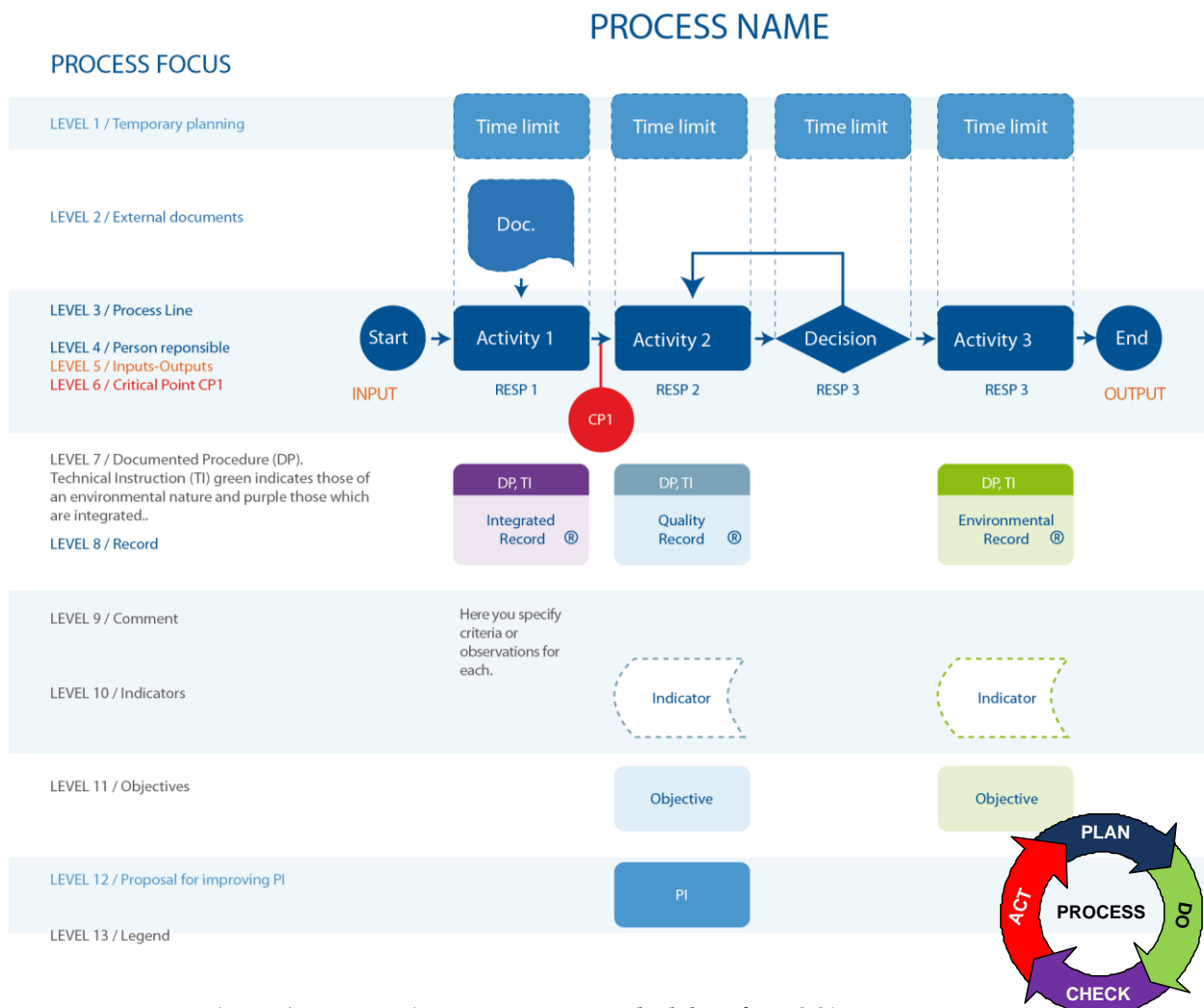


Figure 4. Innovative Management Methodology for TOQi Processes.

### 3. Results and discussion.

The main results of the implemented best practice at an internal level are:

- Creation of 3 jobs in Oviedo (Principality of Asturias).
- Establishment of the **Know-How transfer agreement** between TOQi and the University of Oviedo (under review).
- Design of a Catalogue of Services and the spin-off website (Services to Universities and Services to SMEs and Organisations).
- Brand protection of the **TOQi brand name** (Brand Product Class 10 and 41) as a guarantee of the quality of the company.
- Awarding of 2 **technical assistance** contracts with the University of Oviedo in matters of quality for the implanting of Internal Quality Assurance Systems and to coordinate and develop a comprehensive survey of Bachelor's and Master's studies.

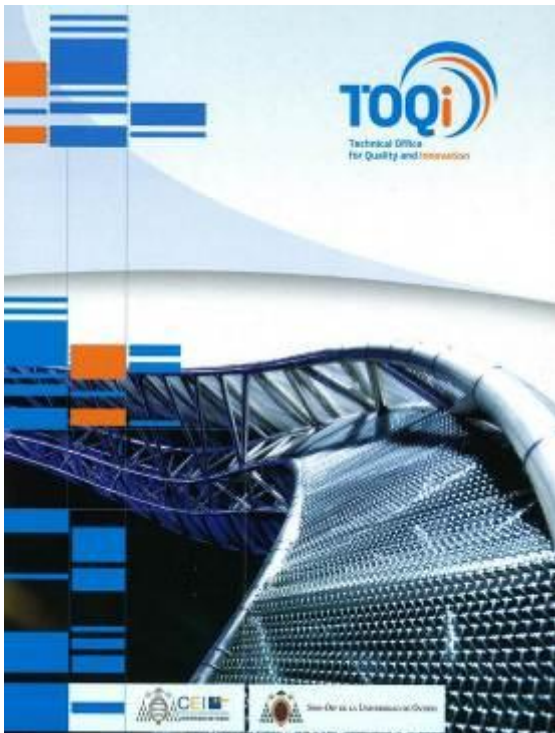


Figure 5. Catalogue of Services and the TOQi website.

- Publication of the **monograph** “Management by Processes. Case Studies”.



Figure 6. Cover of the “Management by Processes” monograph.

- The percentage of turnover outside of the University of Oviedo in relation to total turnover is 20%.

Analysis of the establishment and development phase of the spin-off shows that a series of measures should be taken by universities to try not only to promote the generation of spin-offs, as has happened so far, but also to provide the innovative companies that they originate instruments that allow them to expand and achieve higher level goals.

Greater support by the academic institution of origin would result in superior results from the standpoint of economic growth, trade and, in particular, staff.

Externally, the following has been achieved:

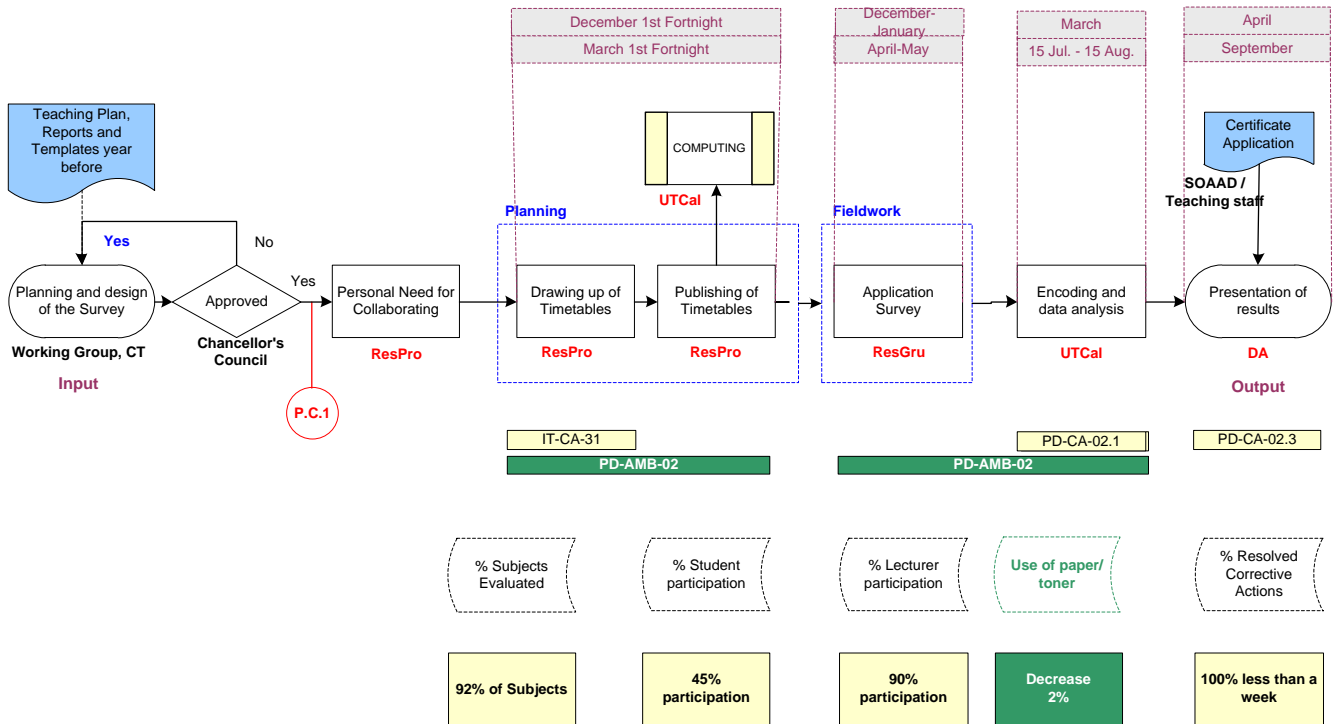
- Support for 3 University of Oviedo lecturers to accede to the post of University Lecturer (hired PhD lecturer, assistant PhD lecturer and collaborating lecturer) according to the ANECA Lecturer Assessment Program for recruitment (Spanish acronym, PEP).
- Approval of a collaborative project in terms of Quality with the Haemodialysis Unit at Nalón Valley Hospital, dependent on the Principality of Asturias Health Service.

Dossier 508/2009, Hospital Valle del Nalón.

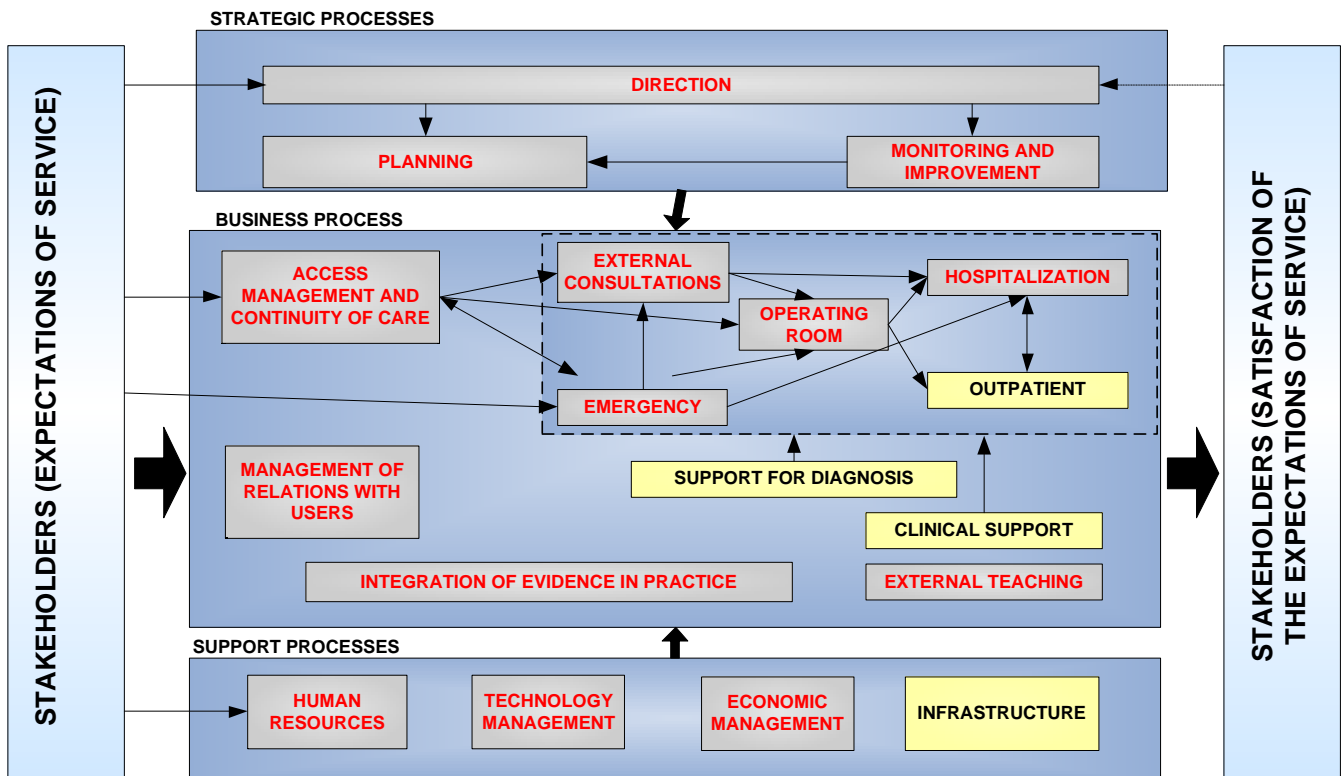
- Maintenance of Integrated Management Systems (Quality, Environment, R&D and Innovation, Information Security, IT Services, etc.) in 5 organisations from different sectors in the Principality of Asturias.
- **11 official cooperation agreements** have been established.

It worth noting that the same methodological approach by means of processes designed by TOQi is being employed in all the implemented projects, being highly successful in all cases. That is, the TOQi brand image has been created for implementing process management in organisations, the proof of which comprises the following examples:

### University, General Education Survey (Spanish acronym, EGE).

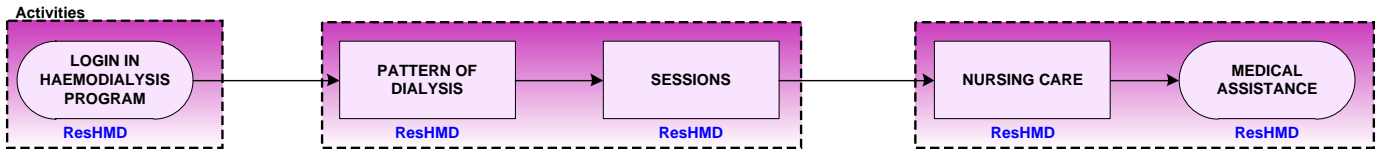


### Public Organisation, Haemodialysis Service, Nalón Valley Hospital.



## CHRONIC HAEMODIALYSIS PROCESS

### SUBPROCESS



#### Input

CRF patients whose treatment option is replacement Hemodialysis

#### Output

"Lifetime" treatment or the changeover to replacement therapy

IT-PO. 01



IT-PO. 02



IT-PO. 03



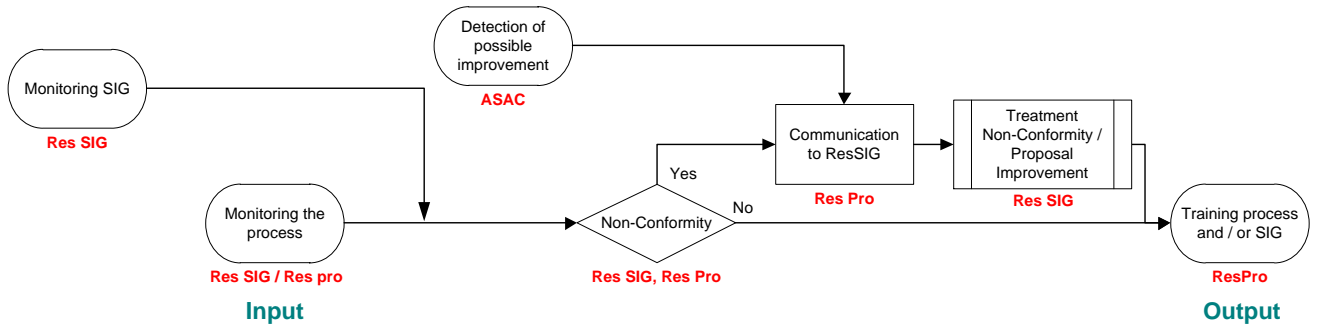
IT-PO. 04



IT-PO. 05



### SME belonging to the ICT sector, ASAC Comunicaciones.



Minutes of the meeting  
R-ASAC-07 (R)

Management acknowledges the adequacy and effectiveness of the system in the Management Review Report

NC, CA, PA y OI  
R-ASAC-04 (R)

Monitoring and measurement through process indicators.

The section on the aspects to assess in the satisfaction survey on ASAC services is considered as a proposal for improvement and is treated accordingly.

NC, CA, PA y OI  
R-ASAC-04 (R)

Based on the analysis of data from monitoring the process and objectives planned for it.

% of improvements implemented

80%

Average no. of days the CA are closed

30 days



#### 4. Conclusions.

- The character of the spin-off is completely innovative as it entails a new way of managing Technical Units for Quality at Spanish Universities and offers more flexible alternatives for the providing of services and personnel management.
- In the case of TOQi, the close relationship with the University of Oviedo has enabled the existence of technical assistance services to launch initiatives and Quality and Innovation projects.
- Leveraging the synergies of UTCal and TOQi furthers the development of joint projects.
- The possibility of expanding the scope of the spin-off to meet and manage the needs of other University Services. It constitutes a comprehensive Services Engineering resource providing support to University Units.
- The management of projects aimed at designing and implementing quality management and environmental management systems, among others, together with organisations in the Principality of Asturias, Cantabria and Madrid.
- Participation in university working groups, in collaboration with the Technical Unit for Quality, allows us to keep abreast of developments in the management of Academic Quality and Innovation.
- Marketing and dissemination activities (brochures, websites, the Telescopi network, etc.) that enable potential customers to become acquainted with the implemented project.
- Internationalization, in collaboration with the Technical Unit for Quality, e.g. in the Draft Programme of Interuniversity Cooperation and Scientific Research (Spanish acronym, PCI).
- The production of economic returns for the university, thus diversifying its financial base.
- The introduction of changes in the management of UTCal, i.e. moving on from the concept of the traditional university to that of the entrepreneurial university.
- Creating a corporate identity or brand image around the TOQi process approach that has gained very good acceptance in all the organisations in which Quality and Innovation projects have been implemented.

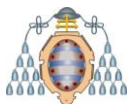
***This practice is included in the Telescopi network Observatories' Network on Best Practices for the Strategic Management in Latin America and Europe 2011.***

<http://telescopi.upc.edu>

## 5. Bibliographical References.

- [1] Rubiralta, M. Transferencia a las empresas de la investigación universitaria. Descripción de los modelos europeos. Fundación COTEC para la Innovación Tecnológica, Madrid, 2004.
- [2] Ley 4/2007, de 12 de abril, por la que se modifica la Ley 6/2001, de 21 de diciembre, de Universidades.
- [3] O'Shea, Rory P.; Allen, Thomas J.; Morse, Kenneth P.; O'Gorman, Colm and Roche, Frank. Delineating the Anatomy of an Entrepreneurial University: The Massachusetts Institute of Technology Experience. *R&D Management*, 37(1), 1-16, 2007.
- [4] Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación.
- [5] Beraza Garmendia, J.M. La creación de spin-offs universitarias en la Universidad Española: marco legal. *Revista de Dirección y Administración de Empresas*. Número 17, diciembre 2010.
- [6] Pulido, A. El futuro de la Universidad, un tema para debate dentro y fuera de las Universidades. Universidad Autónoma de Madrid. Delta, Publicaciones Universitarias. Madrid, 2009.
- [7] CRUE. Memoria RedOTRI 2010. Madrid, 2011.
- [8] Ministerio de Educación y Ciencia (MEC), Everis. La creación de empresas de base tecnológica en el ámbito universitario a partir de la reforma de la LOU. Madrid, 2008.
- [9] Condom, P. y Valls, J. "La creación de empresas desde la universidad: las spin-off", *Iniciativa Emprendedora*, nº 38, pp. 52-69, 2003.
- [10] Ortín, P. Salas, V. Trujillo MV. y Vendrell F. El spin-off universitario en España como modelo de creación de empresas intensivas en tecnología. Dirección General de Política de la Pequeña y Mediana Empresa.
- [11] Universia Investigación: "Una aproximación al concepto de spin-off". <http://investigacion.universia.es/spinoff/concepto/index.htm> [1 de abril de 2009].
- [12] AENOR, 2000. Norma ISO 9001:2008. Sistemas de Gestión de la Calidad. Requisitos. Madrid. Asociación Española de Normalización y Certificación.
- [13] Montiel Campos, H. y Solé, F. Existencia, descubrimiento y explotación de oportunidades tecnológicas. *Revista de Administración, Finanzas y Economía (Journal of Management, Finance and Economics)*, vol. 2, núm. 2 (2008), pp. 104-124.
- [14] Solé, F. Llinàs-Audet, X. De la burocracia profesional a la tecnópolis: los desafíos estratégicos de la gestión universitaria. Cátedra UNESCO de Dirección Universitaria. Universitat Politècnica de Catalunya.
- [15] AENOR, 2006. Norma UNE 166.002:2006. Gestión de I+D+i. Requisitos del Sistema de Gestión de la I+D+i. Madrid. Asociación Española de Normalización y Certificación.

- [16] AENOR, 2006. Norma UNE 166.006:2006. Gestión de I+D+i. Sistema de Vigilancia Tecnológica. Madrid. Asociación Española de Normalización y Certificación.



## TEACHING INNOVATION PROJECTS ASSOCIATED WITH THE INTRODUCTION OF THE NEW INFORMATION TECHNOLOGIES (ICTS) IMPROVE EXPECTED EDUCATIONAL RESULTS: THE CASE OF ENGINEERING STUDIES AT THE UNIVERSITY OF OVIEDO.

Alberto A. Suárez<sup>1</sup>, Miguel Angel Pascual<sup>2</sup>, Javier Alonso<sup>2</sup>, Ramón Fuentes<sup>3</sup>, Carlos Catalán<sup>2</sup>  
Ramiro Martí<sup>2</sup>

### Abstract

The aim of Teaching Innovation Projects is to create working groups to develop innovative teaching methods and/or contents. The University of Oviedo published six calls for Teaching and Research Staff (Spanish acronym, PDI) projects at the University of Oviedo between 2001 and 2006.

During these calls, 342 Teaching Innovation Projects were awarded and implemented in all, with a total executed budget of € 794,285.73. 80% of the Teaching Innovation Projects carried out were related to the University of Oviedo's e-learning platform, *Aulanet*.

The purpose of this study is to quantify the impact of the implemented Teaching Innovation Projects related to the publication of subject matter on the e-learning platform on academic results (Efficiency Rate and Success Rate) in degrees awarded by the University of Oviedo in the Branch of Engineering.

Worth highlighting among the study's conclusions is the fact that there was a significant improvement in academic results in 26% of the subjects in the Branch of Engineering integrated in the University of Oviedo e-learning platform in the academic years subsequent to the implementation of the Teaching Innovation Project ( $p < 0.05$ ).

### Keywords:

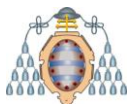
Teaching Innovation Projects, Virtual Classroom, Academic Results, Efficiency Rate and Success Rate.

---

<sup>1</sup> Head of the Technical Unit for Quality at the University of Oviedo. C/ Principado 3, Entreplanta. 33007 Oviedo. Asturias.

<sup>2</sup> Technical Unit for Quality. University of Oviedo.

<sup>3</sup> Department of Applied Economic Analysis. University of Alicante. Ap. Correos 99. 03080. Alicante.



## 1. Introduction

Since the 1983 reform, Spanish universities have been making significant internal changes in order to improve the quality of teaching.

Teaching staff assessment by students was introduced in the 1980's. The method employed in this assessment was that of an opinion survey questionnaire on a number of items related to different aspects of university teaching.

The 1990's saw the first calls for the so-called *National Quality Assessment Plans (Experimental Programme, European Pilot Projects and the National Plan for the Quality Assessment of Universities)*.

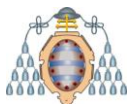
Since 2000, the University of Oviedo has issued six calls for *Teaching Innovation Projects* that show its determination to innovate educational methods and meet the challenge with a firm commitment to the incorporation of ICTs in academic habits and the teaching-learning process, all with the view *to meet the new demands of students, to modernize the university and to prepare for the new approach of the European Higher Education Area*.

The European Higher Education Area has been established around three basic principles: *transparency in learning processes, transfer between the different university systems of acquired learning and the Centre/Degree quality assurance system as a tool for monitoring and improvement (Royal Decree 1125/2003, of 5<sup>th</sup> September, Real Decree 55/2005 of 21<sup>st</sup> January, Royal Decree 56/2005, of 21<sup>st</sup> January, Royal Decree 1393/2007, of 29<sup>th</sup> October, and Royal Decree 861/2010, of 2<sup>nd</sup> July*.

The new organization of university studies has prompted a change in teaching methodologies, the central pillar of which is the student learning process within a context that now extends throughout life. A new way of conceiving academic education is thus required.

Students are responsible for their learning and lecturers are to provide the conditions for this personal learning to occur. This requires a teacher who should be a trained and highly motivated university lecturer, trained in methodology, new technologies, teaching skills and the development of competences associated with tutoring, monitoring and stimulating students (Michavila, 2005; Rodriguez, 2004; Roselló, 2006; Suarez, 2005; Zabalza 2004).

Everything focuses on ensuring learning methods that guarantee the *acquisition of the competences established in each degree*. Thus, orientation activities (Alvarez, 2001) and the teaching methodology employed, including e-learning, based on student work within and outside the classroom and the procedures used to assess the acquisition of these competences play a determining role.



## 2. Method.

The aim of the present study is to analyse the influence of Teaching Innovation Projects on the academic results of subjects in the Branch of Engineering at the University of Oviedo. The following reference information was employed in the study:

- *Proyectos de Innovación Docente 2001 – 2006* [Teaching Innovation Projects 2001 – 2006]. April 2008. Centre for Innovation, University of Oviedo.
- *Estudio de Rendimiento Académico de los cursos académicos del 2001/02 al 2007/08* [Academic Performance Study of the academic years 2001/02 to 2007/08]. Technical Unit for Quality, University of Oviedo.



Figure 1. *Teaching Innovation Projects 2001 – 2006.*

The following chart lists the various initiatives launched at the University of Oviedo to improve degree courses in which Innovation Projects play an important role.

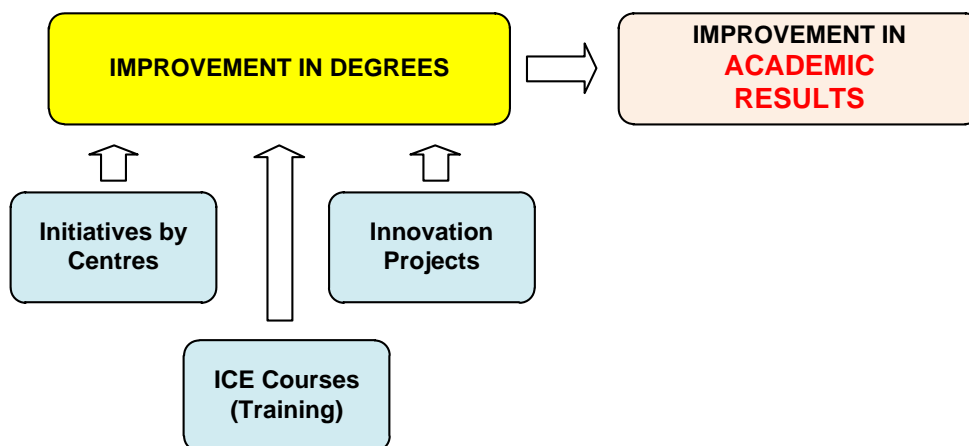
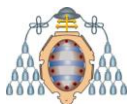


Figure 2. *Scheme for improving degree courses.*



We next present a brief summary of the Teaching Innovation Projects and Academic Performance Study at the University of Oviedo so as to facilitate the reading and understanding of the study undertaken.

## 2.1. Teaching Innovation Projects<sup>4</sup>.

The aim of the calls for Teaching Innovation Projects is to create working groups to develop innovative teaching methods and/or contents that facilitate the process of European convergence, furthering the necessary renovation of teaching methods with special emphasis on student-centred learning. During these calls, 342 Teaching Innovation Projects were awarded and implemented in all, with a total executed budget of € 794,285.73 (€ 210,000 maximum grant corresponding to the Branch of Engineering). Three types of actions have been developed:

### **Action A: Incorporation of subjects in the Virtual Classroom.**

Projects of this type are aimed at incorporating subjects from the first, second and third cycles, as well as other subject matters of non-formal university education, in the University of Oviedo's e-learning platform, *Aulanet*, so that they can be followed in part or entirely over the Internet.

### **Action B: Grants to support the incorporation of innovative teaching materials in the Virtual Classroom.**

Actions of this type are aimed at creating working groups to develop teaching content in the first, second and third cycles, as well as other matters of non-formal university education, so as to have complementary study materials that may be followed over the Internet, on the University of Oviedo's e-learning platform, *Aulanet*.

### **Action C: Grants to support educational innovation.**

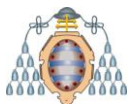
This type of action aims to foster educational innovation through the training and consolidation of working groups that undertake research and develop experiences within the framework of the EHEA aimed at producing changes that lead to improved education, with special reference to those that affect the different ways of working and the teacher/student relationship.

The main aim of the University of Oviedo's Virtual Campus is to facilitate the education and preparation of students in a flexible environment that adapts to their needs.

Since it was created in 1999, it has taken shape as a virtual university community in continual progress and evolution that currently includes over 2,000 subjects, as well as involving more than 1,200 lecturers and over 25,000 students.

---

<sup>4</sup> Information from the University of Oviedo publication: *Proyectos de Innovación Docente [Teaching Innovation Projects] 2001-2006*.



The development of Innovation Projects fosters:

- **In teachers:** their work as facilitators of the student learning process, the evaluation of their participation to achieve joint goals, their willingness to learn from people, opinions or ideas different from their own and individual fulfilment of assigned tasks in joint activities, in accordance with high standards.
- **In students:** their participation and accountability in the results obtained in the teaching-learning process, both their own as well as that of the classmates with whom they undertake joint activities, as well as their ability to reconcile differences and achieve group agreements.

## 2.2. Academic Performance Study<sup>5</sup>.

The main aim is to report on the status and evolution of University of Oviedo degrees as regards the progress and results of student learning (De Miguel, 2001). The indicators used as estimators of academic results considered in the study are:

Regarding graduated students:

**Efficiency Rate (ER):** the percentage ratio between the total number of credits that those students who graduated from among those in their final year should have enrolled in to obtain their degree and the total number of credits in which they did actually enrol in.

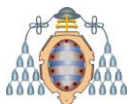
Regarding all the students in the academic year:

**Success Rate (SR)** the percentage ratio between the total number of credits passed and the total number of credits for all students.

---

<sup>5</sup> Information from: *Estudio de Rendimiento Académico de Titulaciones* [Academic Degree Performance Study] prepared by the Technical Unit for Quality.





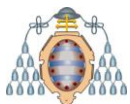
### 3. Results and discussion.

The following table presents information on the Teaching Innovation Projects undertaken between 2001 and 2006 by department.

DEPARTAMENT	2001	2002	2003	2004	2005	2006	Total
Business Administration and Accounting	1	0	2	1	3	6	13
Organisms and Systems Biology	0	1	2	2	1	0	6
Functional Biology	0	0	3	4	4	2	13
Education Sciences	8	2	0	2	6	3	21
Basic Legal Sciences	0	0	1	0	0	0	1
Surgery and Medical-Surgical Specialties	5	0	0	0	1	2	8
Construction and Manufacturing Engineering	5	3	5	7	6	5	31
Private and Business Law	0	0	0	1	2	2	5
Public Law	1	1	0	2	0	0	4
Economics	0	0	1	4	3	0	8
Applied Economics	6	5	4	4	6	0	25
Quantitative Economics	0	3	3	2	1	1	10
Energy	2	1	1	1	3	0	8
Statistics and Operational and Educational Research in Mathematics	0	0	0	0	1	1	2
Mine Workings and Prospection	2	2	3	3	6	5	21
Anglo-Germanic and French Philology	2	1	2	1	2	1	9
Classical and Romance Philology	2	3	1	3	1	0	10
Spanish Philology	3	0	0	0	1	0	4
Philosophy	0	1	0	0	0	0	1
Physics	1	0	0	4	3	2	10
Geography	0	0	0	0	0	2	2
Geology	5	0	3	0	0	0	8
History	0	0	0	0	2	0	2
Art History and Musicology	0	0	0	0	1	0	1
Information Technology	2	1	1	2	4	4	14
Chemical Engineering and Environmental Technology	2	0	1	1	1	0	5
Electrical Engineering Computer and Systems Electronics	10	12	7	10	17	8	64
Mathematics	1	0	3	2	2	2	10
Medicine	1	0	0	0	1	0	2
Cell Morphology and Biology	0	0	0	1	3	1	5
Psychology	1	1	1	2	2	1	8
Physical and Analytical Chemistry	0	0	2	3	2	1	8
Organic and Inorganic Chemistry	1	0	0	0	1	1	3
<b>Total UO</b>	<b>61</b>	<b>37</b>	<b>46</b>	<b>62</b>	<b>86</b>	<b>50</b>	<b>342</b>

*Table 1. Distribution of Projects by Department.*

*Note: Departments belonging to the Field of Engineering are shaded.*



Next we present the data on the evolution –from the academic year 2001/2002 to that of 2007/2008– of the results for the Success Rate and Efficiency Rate for the subjects in which Teaching Innovation Projects were implemented (Branches of Knowledge established in Royal Decree 1393/2007, of 29<sup>th</sup> October, establishing the regulating of official university studies) (Tejedor, 2007).

YEAR	2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008	
BRANCH OF KNOWLEDGE	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR
Arts and Humanities	42.34	85.45	41.83	86.17	40.38	86.68	40.65	87.15	43.61	88.57	44.55	88.95	46.12	89.22
Sciences	37.75	79.67	37.97	79.42	36.20	78.09	38.30	79.00	36.37	77.03	35.86	78.75	35.56	78.73
Health Sciences	67.17	93.12	68.62	92.46	68.66	92.21	66.48	90.90	66.50	91.78	66.00	91.01	64.45	90.23
Social and Legal Sciences	37.64	79.52	37.50	80.29	35.35	79.65	37.32	80.44	37.06	80.79	39.48	81.44	41.31	81.96
<b>Engineering</b>	<b>30.48</b>	<b>77.74</b>	<b>32.10</b>	<b>77.69</b>	<b>37.44</b>	<b>79.46</b>	<b>36.40</b>	<b>78.16</b>	<b>39.01</b>	<b>80.40</b>	<b>34.97</b>	<b>79.05</b>	<b>34.03</b>	<b>78.60</b>
<b>Total Subjects with Projects</b>	<b>34.54</b>	<b>76.23</b>	<b>35.72</b>	<b>77.28</b>	<b>37.18</b>	<b>79.30</b>	<b>38.62</b>	<b>79.39</b>	<b>39.62</b>	<b>80.59</b>	<b>38.02</b>	<b>79.11</b>	<b>38.84</b>	<b>79.82</b>
<b>Total UO</b>	<b>36.84</b>	<b>80.45</b>	<b>37.71</b>	<b>80.92</b>	<b>38.29</b>	<b>81.02</b>	<b>39.02</b>	<b>81.01</b>	<b>39.97</b>	<b>81.86</b>	<b>39.87</b>	<b>82.01</b>	<b>40.48</b>	<b>82.12</b>

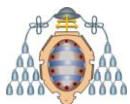
*Table 2. ER and SR results in the different Branches of Knowledge.*

The Branch of Engineering was chosen because the teaching staff belonging to this branch has more experience in using the virtual campus and in publishing content online. The study was conducted on 25 out of the 68 subjects in the Branch of Engineering in which Type A, B and C Teaching Innovation Projects were implemented in all the cases related to the University of Oviedo's e-learning platform.

The following is a list of topics related to the Projects undertaken in the 25 subjects selected for the study:

- 4 projects focus on adapting the subject to the EHEA.
- 18 projects focus on extending the scope of e-Teaching.
- 8 projects focus on support for teaching through new technologies.
- 3 Projects are devoted to coordination between subjects.

Note: There are cases in which more than one Project was implemented in a subject and also in which one Project was implemented in several subjects.

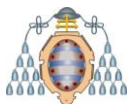


SUBJECT	PROJECT THEME
AUTOMATA AND DISCRETE MATHEMATICS	Adaptation to the EHEA.
MOBILE AND SATELLITE COMMUNICATIONS	Support for teaching through the new technologies.
CONSTRUCTION	Interdisciplinary coordination of subjects.
PHOTONIC DEVICES	Expansion of the scope of e-teaching.
ANALOG ELECTRONICS	Support for teaching through the new technologies.
GRAPHIC EXPRESSION	Expansion of the scope of e-teaching. Coordination between subjects.
PHOTOGRAMMETRY I	Adaptation to the EHEA. Expansion of the scope of e-teaching.
FUNDAMENTALS OF ELECTRONICS	Support for teaching through the new technologies.
GEOLOGICAL ENVIRONMENTAL ENGINEERING	Support for teaching through the new technologies.
CHEMICAL ENGINEERING AND ENVIRONMENTAL TECHNOLOGY	Expansion of the scope of e-teaching.
OFFICE SYSTEMS IN PROJECT MANAGEMENT. THE PROJECT AND QUALITY ASSURANCE	Support for teaching through the new technologies. Interdisciplinary coordination of subjects.
FLUID MECHANICS	Expansion of the scope of e-teaching.
PROGRAMMING METHODOLOGY I	Expansion of the scope of e-teaching.
MICROWAVES	Expansion of the scope of e-teaching.
RADAR AND RADIOLOCATION	Expansion of the scope of e-teaching.
RADIATION AND RADIOPROPAGATION	Expansion of the scope of e-teaching.
AUTOMATIC CONTROL	Expansion of the scope of e-teaching. Support for teaching through the new technologies.
TELECOMMUNICATION SYSTEMS	Expansion of the scope of e-teaching.
OPERATING SYSTEMS	Expansion of the scope of e-teaching. Support for teaching through the new technologies.
ELECTRONIC TECHNOLOGY AND INSTRUMENTATION	Adaptation to the EHEA. Expansion of the scope of e-teaching.
ELECTRONICS TECHNOLOGY	Expansion of the scope of e-teaching. Support for teaching through the new technologies.
REMOTE SENSING	Expansion of the scope of e-teaching.
TOPOGRAPHY AND CARTOGRAPHIC SYSTEMS	Expansion of the scope of e-teaching.
HEAT TRANSFER	Adaptation to the EHEA. Expansion of the scope of e-teaching.
DIGITAL SIGNAL PROCESSING	Expansion of the scope of e-teaching.

*Table 3. Teaching Innovation Project Themes.*

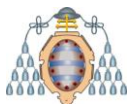
The study results show a marked improvement in academic results in 7 of the 25 selected subjects incorporated in the Virtual Campus.

Even though they may have some long-term relationship, the Success and Efficiency Rates are ratios may reflect conflicting results because they are independent rates. This is because the Success Rate is calculated using data that affect a single academic year, while the background of the students related to the subject in question is examined to calculate the Efficiency Rate. The accumulation of students adversely affects the Efficiency Rate, but has no influence on the Success Rate. See the definition of both these rates in the Methods section of the study.



The following table shows the evolution from the academic year 2001/2002 to that of 2007/2008 of Success Rate and Efficiency Rate results for the subjects under study.

ACADEMIC YEAR	2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008		PROJ INN
	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	
1 AUTOMATA AND DISCRETE MATHEMATICS	25.39	46.43	16.72	32.70	23.77	50.71	17.14	40.00	22.12	55.37	26.42	67.52	25.00	64.29	2005
2 MOBILE AND SATELLITE COMMUNICATIONS	--	--	--	--	--	--	75.86	84.62	95.74	100	94.87	100	88.89	100	2005
3 CONSTRUCTION	84.62	100	84.89	97.95	74.60	100	79.10	100	68.24	100	60.58	100	77.08	100	2005
4 PHOTONIC DEVICES	79.17	88.37	79.17	89.41	76.47	93.98	72.22	91.55	56.04	75.00	37.11	64.29	47.92	82.14	2005
5 ANALOG ELECTRONICS	--	--	--	--	55.10	81.82	34.94	58.00	31.01	70.18	26.58	60.87	29.05	74.29	2004 2002
6 GRAPHIC EXPRESSION	22.58	51.38	23.74	66.95	20.56	64.32	16.79	57.20	17.75	59.85	13.98	68.24	19.50	68.78	2002 2003 2005 2006
7 PHOTOGRAMMETRY I	24.70	73.21	20.99	65.38	17.54	61.29	15.30	67.50	10.86	65.15	7.61	45.45	27.77	77.97	2006
8 FUNDAMENTALS OF ELECTRONICS	--	--	--	--	--	--	64.03	83.96	58.51	94.02	48.54	96.67	43.82	93.22	2004
9 GEOLOGICAL ENVIRONMENTAL ENGINEERING	56.35	88.70	47.22	95.77	59.63	91.73	43.81	88.46	48.80	95.31	39.36	94.87	43.22	96.23	2005
10 CHEMICAL ENGINEERING AND ENVIRONMENTAL TECHNOLOGY	40.53	84.25	33.64	71.29	28.41	66.67	26.72	75.61	27.20	77.27	26.61	72.50	27.14	74.51	2003
11 OFFICE SYSTEMS IN PROJECT MANAGEMENT THE PROJECT AND QUALITY ASSURANCE	--	--	88.46	100	72.73	100	75.51	97.37	63.89	100	76.79	100	63.64	100	2005 2006
12 FLUID MECHANICS	35.37	88.21	36.53	94.36	26.11	79.79	35.72	90.04	39.83	88.77	34.92	75.33	44.67	88.91	2005
13 PROGRAMMING METHODOLOGY I	16.64	53.30	21.68	64.89	19.95	69.12	23.50	76.02	23.22	75.51	16.38	49.48	21.01	70.42	2005
14 MICROWAVES	--	--	--	--	50.00	64.29	40.26	58.49	47.10	89.04	29.05	65.15	24.46	66.18	2004
15 RADAR AND RADIOLOCATION	--	--	--	--	--	--	73.68	87.50	77.27	94.44	100	100	100	100	2005
16 RADIATION AND RADIOPROPAGATION	--	--	--	--	47.37	66.67	39.73	76.32	37.84	76.36	28.93	77.97	30.32	89.06	2003
17 AUTOMATIC CONTROL	38.93	90.65	32.22	85.58	50.96	85.38	55.78	97.24	24.56	90.32	40.43	100	36.54	100	2002
18 TELECOMMUNICATION SYSTEMS	--	--	--	--	--	--	71.43	88.24	56.86	78.38	26.32	45.45	36.11	81.25	2006
19 OPERATING SYSTEMS	49.12	60.87	38.24	65.00	51.05	75.56	52.00	82.98	39.17	81.73	30.17	76.07	29.11	89.38	2005
20 ELECTRONIC TECHNOLOGY AND INSTRUMENTATION	--	--	65.00	100	52.38	100	66.67	100	80.00	100	66.67	100	38.46	100	2005



ACADEMIC YEAR	2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008		PROJ INN
	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	
21 ELECTRONICS TECHNOLOGY	93.75	100	53.85	67.12	41.95	68.38	27.09	58.70	29.67	70.94	24.34	66.52	25.67	64.68	2005
22 REMOTE SENSING	75.86	100	52.17	76.60	59.09	93.98	59.02	93.51	45.11	76.92	43.36	84.93	56.52	94.79	2005
23 TOPOGRAPHY AND CARTOGRAPHIC SYSTEMS	42.94	71.29	30.49	72.10	19.31	67.39	12.54	71.69	14.20	70.22	6.94	38.79	18.18	83.06	2006
24 HEAT TRANSFER	--	--	--	--	68.09	85.33	48.04	80.33	42.70	75.00	37.76	74.42	34.76	68.78	2005
25 DIGITAL SIGNAL PROCESSING	--	--	--	--	66.67	86.96	60.26	75.81	39.47	70.31	34.55	76.00	29.03	75.00	2005
<b>Total Subjects in Study</b>	<b>31.09</b>	<b>69.71</b>	<b>28.97</b>	<b>68.26</b>	<b>30.81</b>	<b>71.72</b>	<b>32.31</b>	<b>74.82</b>	<b>30.66</b>	<b>76.22</b>	<b>26.72</b>	<b>70.17</b>	<b>30.92</b>	<b>79.19</b>	

Table 4. ER and SR results in the different Subjects.

The table below shows the evolution of Success Rates in relation to the Branch of Engineering.

YEAR	2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008	
	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR	ER	SR
Total Subjects in Study	31.09	69.71	28.97	68.26	30.81	71.72	32.31	74.82	30.66	76.22	26.72	70.17	30.92	79.19
Total Branch of Engineering	30.48	77.74	32.10	77.69	37.44	79.46	36.40	78.16	39.01	80.40	34.97	79.05	34.03	78.60
Total Subjects with Projects	34.54	76.23	35.72	77.28	37.18	79.30	38.62	79.39	39.62	80.59	38.02	79.11	38.84	79.82
Total UO	36.84	80.45	37.71	80.92	38.29	81.02	39.02	81.01	39.97	81.86	39.87	82.01	40.48	82.12

Table 5. ER and SR results in general.

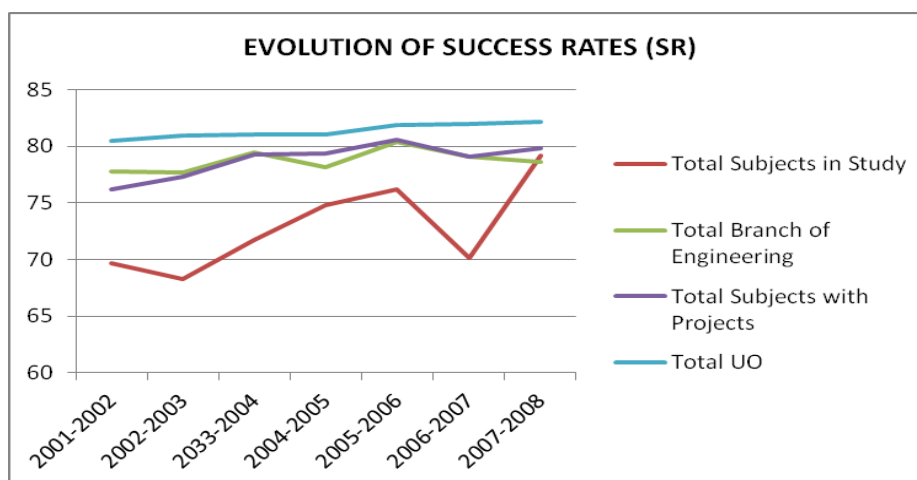


Figure 3. Evolution of Success Rates in Engineering.



Analysing these rates, it can be seen that the Success Rate improved right from the moment when Teaching Innovation activities were implemented at the University of Oviedo.

To analyse the correlations between the results and the influence Teaching Innovation Projects have on these, a statistical study was carried out in accordance with the following phases:

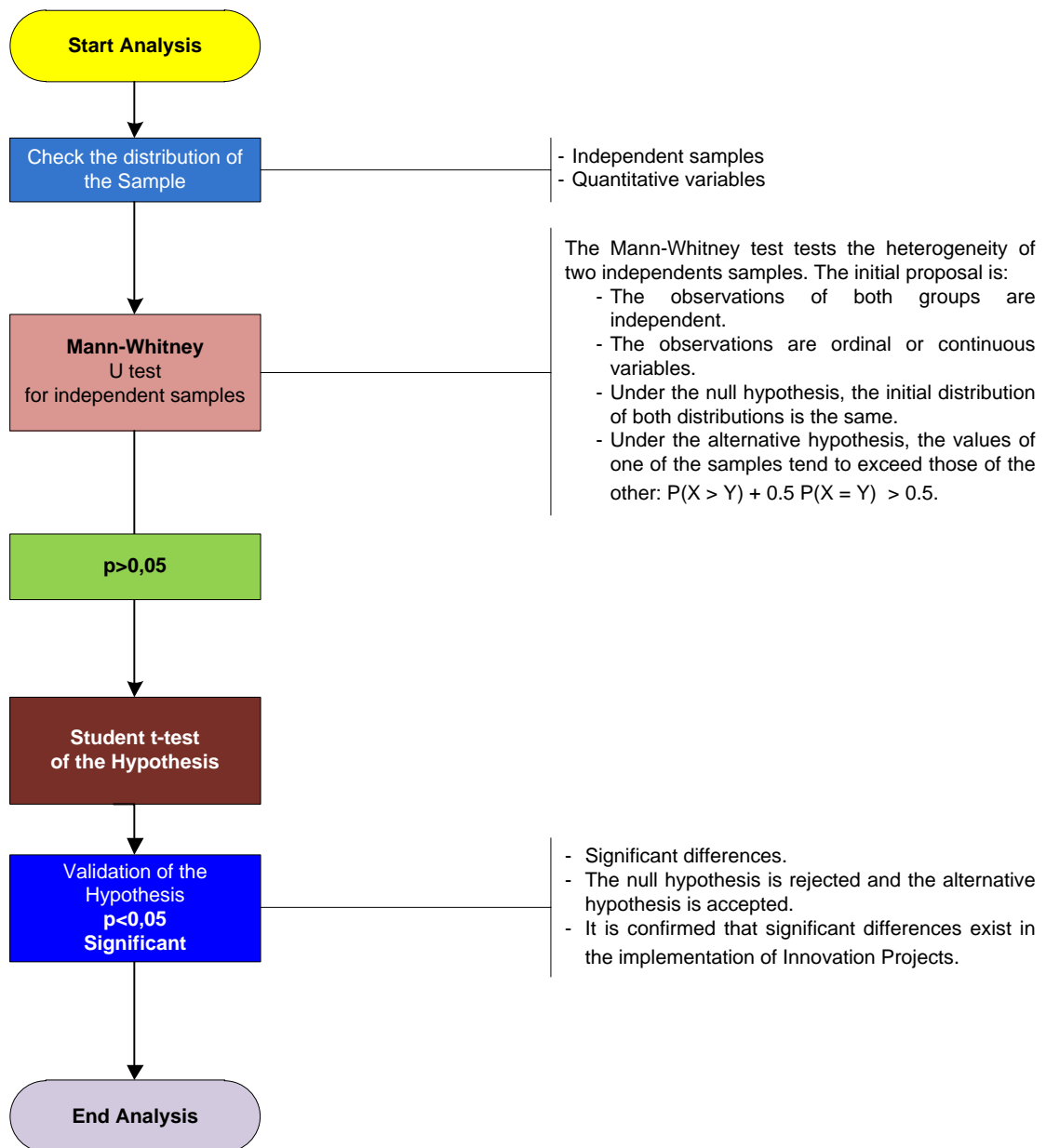
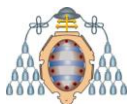


Figure 4. Sequence of analysis for validating the study.



Following the completion of the above phases, it can be seen that significant differences exist ( $p < 0.05$ ) as a result of the implementation of the Teaching Innovation Projects, both in the case of the Success Rate and in the Efficiency Rate in the academic years 2004/2005 and 2005/2006 (the distribution meets the Mann-Whitney U test of normality).

As an example, we next present three graphs with the results obtained in the studies carried out for the Branch of Engineering. These graphs represent the evolution of the Efficiency Rate and Success Rate between the academic years 2001/2002 to 2006/2007 (depending on the information available on these rates; see previous tables) for the selected subjects incorporated in the Virtual Campus by means of Teaching Innovation Projects. **The green vertical line represents the academic year in which a Teaching Innovation Project was implemented.** The influence of the publication of the subjects on the Virtual Campus on the aforementioned rates can be thus be appreciated, in addition to a clear comparison of the performance of each subject.

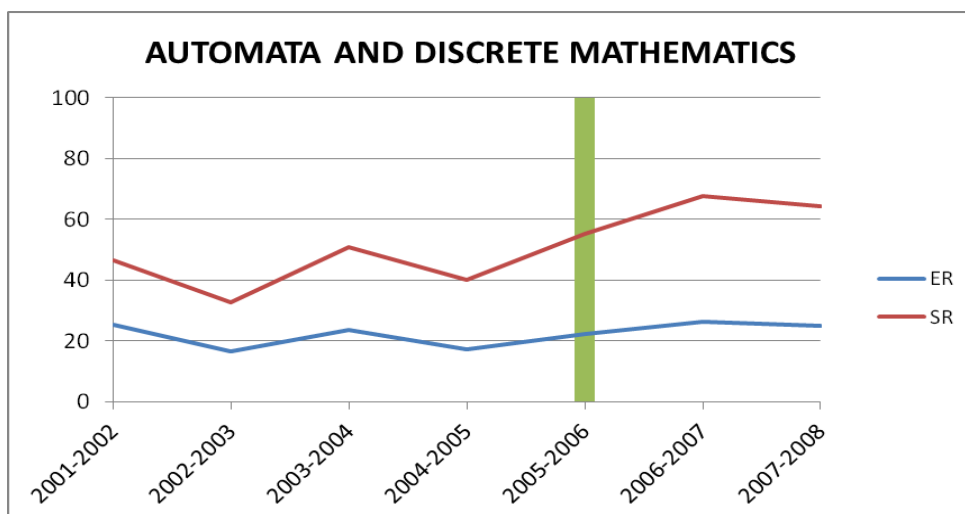


Figure 5. Automata and Discrete Mathematics

As regards the Department of Computer Science subject *Automata and Discrete Mathematics*, an increase in the value of the Efficiency Rate can be appreciated from the academic year in which the Teaching Innovation Project “**Pilot Experience for Integrating the Subject Automata and Discrete Mathematics in the 3-year Computer Engineering Degree in the European Higher Education Area**”. This increase means a rise of slightly more than 7 percentage points between the academic years 2004/2005 and 2007/2008 (17.14% to 25% growth during the academic year 2007-2008).

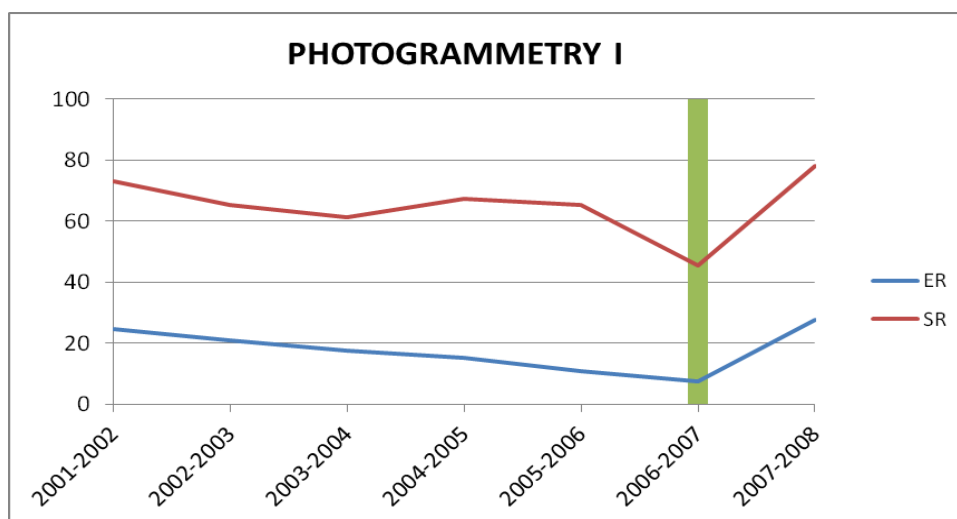
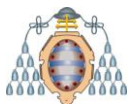


Figure 6. Photogrammetry I.

In the Department of Mine Workings and Prospection subject *Photogrammetry I*, a marked improvement in the values of the Efficiency Rate and the Success Rate can be seen from the academic year in which the Teaching Innovation Project “**Application of Complementary Teaching and Assessment Methodologies, based on the use of ICTs, and Adaptation of the Content of the Subject *Photogrammetry I* to the Current Career Prospects of Technical Engineers in Topography**”. This increase represents more than 30 percentage points in the Success Rate and 20 percentage points in the Efficiency Rate.

The increase in the aforementioned rates in the academic year 2007/2008 is also a consequence of self-assessment in the 3-year Technical Engineering Degree in Topography within the ANECA 2005/2006 Institutional Assessment Programme, which resulted in an improvement plan for the degree.



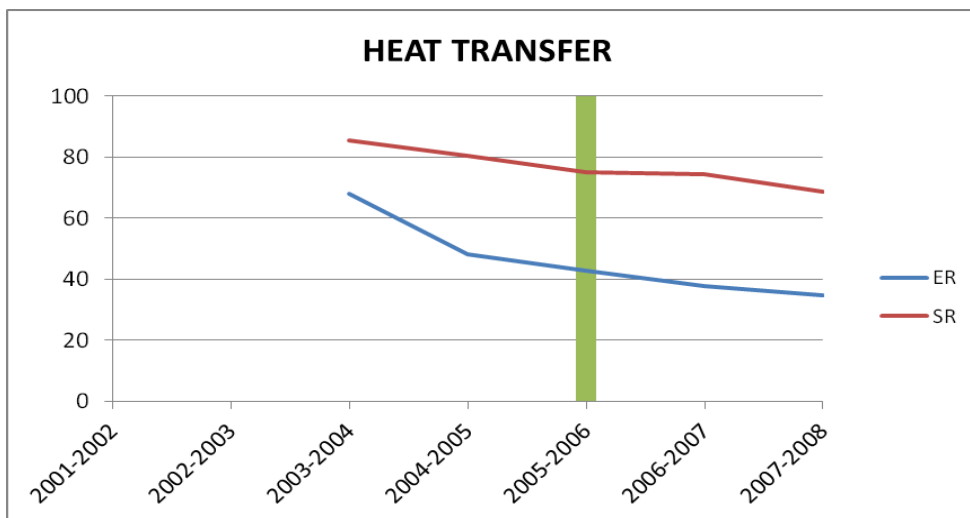
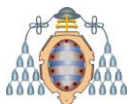
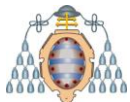


Figure 7. Heat Transfer

Regarding the Department of Energy subject *Heat Transfer*, a slight decrease in the results for both rates (Efficiency and Success) can be appreciated from the academic year in which the Teaching Innovation Project “**Preparation and Web Implementation of Teaching Materials for Heat Transfer**” was implemented, because the actions carried out did not have a direct impact on the subject’s teaching-learning methodology.

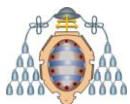


## 4. Conclusions.

The study provides evidence that Teaching Innovation Projects based on publishing subjects on the virtual campus platform has had a direct and relevant impact on improving academic results in subjects in the Branch of Engineering at the University of Oviedo, as reflected in Efficiency Rates and Success Rates. This improvement in academic achievement is most clearly evident when analysing the available information on subjects, which shows a variable increase in rates, depending on each subject, from the academic year in which a Teaching Innovation Project is implemented.

The following conclusions that may be drawn from the study are worth highlighting.

1. 28% (7 out of 25) of the subjects in the Branch of Engineering incorporated in the University of Oviedo's e-learning platform improved markedly in terms of academic results (Success Rate and Efficiency Rate) in the academic years subsequent to the implementation of Teaching Innovation Projects.
2. 56% (14 out of 25) of the subjects in the Branch of Engineering incorporated in the University of Oviedo's e-learning platform improved markedly in terms of the Success Rate in the academic years subsequent to the implementation of Teaching Innovation Projects.
3. 16% (4 out of 25) of the subjects in the Branch of Engineering incorporated in the University of Oviedo's e-learning platform worsened in terms of the Success Rate in the academic years subsequent to the implementation of the Teaching Innovation Projects due to not having had a direct effective impact on the student teaching/learning process.
4. The hypothesis that significant differences exist in the improvement in Success and Efficiency Rates with the implementation of Innovation Projects in the academic years 2004/2005 and 2005/2006 is confirmed.
5. Students have made a highly positive assessment of the changes introduced in the different subjects involved in the implemented projects. Furthermore, a high percentage of students participated in the proposed alternative form of assessment, which has likewise led to increased teacher-student and student-student communication, fostering metacognitive processes of learning and introducing changes in the role of the student and the lecturer with respect to traditional methods.
6. It has been shown that students have taken on a very active role in their own education, becoming more involved in the development of the subject via the use of active methodologies, as required by the European Higher Education Area. They have needed to resort to educational instruments outside the classroom, in libraries, over the Internet, etc., which has redounded in a theoretical-practical view of the teaching received.



7. Students have assumed responsibility for and become more autonomous in their own learning process, thereby acquiring a great potential for their future permanent development throughout life (Lifelong Learning).
8. The use of the University of Oviedo's e-learning platform (Virtual Campus) has increased and been improved by expanding the content and improving the interface and access to contents (see Figure 8).

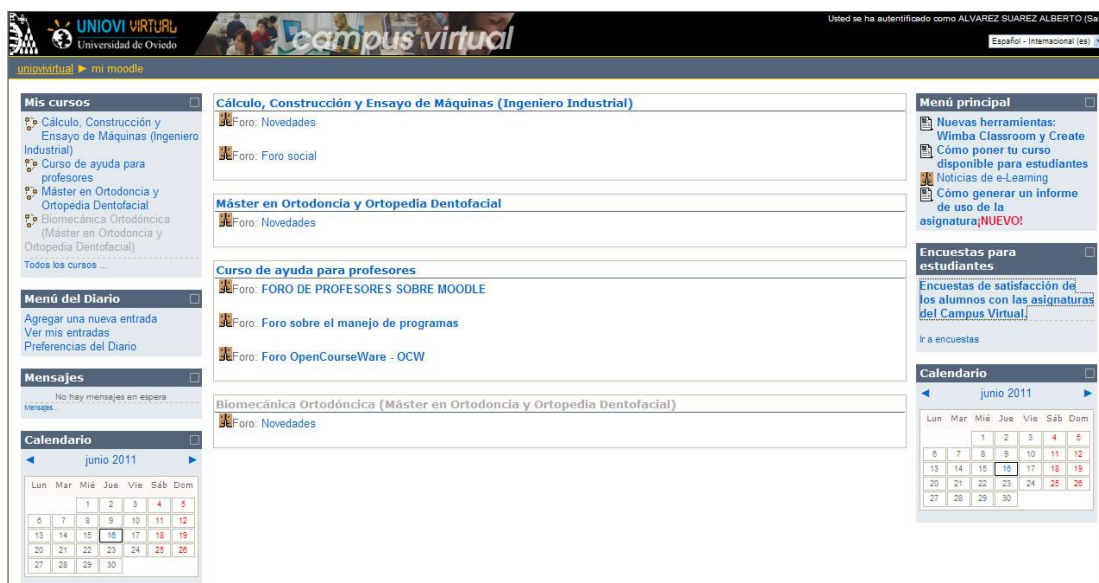
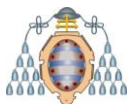


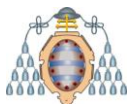
Figure 8. Virtual Campus user screen.

In direct relation to the results of the study, the University of Oviedo's Virtual Campus platform is progressing towards a web 2.0 (e-learning 2.0), which is characterised by offering information on what will be studied in all teaching units and the associated objectives right from the start.



## 5. Bibliographic References.

- Álvarez Rojo, Víctor (2001). *La orientación en los centros universitarios como indicador de calidad*. Revista electrónica digital: @gora digital nº 2.
- De Miguel Díaz, Mario (2001): *Evaluación del Rendimiento en la Enseñanza Superior*. Ministerio de Educación Cultura y Deporte.
- Michavila, Francesc (2005). *Cinco ideas innovadoras para la europeización de la educación Superior*. [artículo en línea]. Revista Universitaria y Sociedad del conocimiento, 2 (1). Disponible en:  
<http://www.uoc.edu/rusc/dt/esp/michavila0405.pdf>.
- Boletín Oficial del Estado. *Real Decreto 861/2010, de 2 de julio, por el que se modifica el Real Decreto 1393/2007, de 29 de octubre, por el que se establece la ordenación de las enseñanzas universitarias oficiales*, (BOE, 3 julio 2010).  
Disponible en [www.boe.es/boe/dias/2010/07/03/pdfs/BOE-A-2010-10542.pdf](http://www.boe.es/boe/dias/2010/07/03/pdfs/BOE-A-2010-10542.pdf)
- Red Española de Agencias de Calidad Universitaria. *Recomendaciones para el seguimiento de los títulos oficiales*. Documento aprobado en marzo 2010.
- Rodríguez, R. (2004). *El proceso de enseñanza-aprendizaje en el contexto universitario*. En: Rodríguez, R., Hernández, J, y Fernández, S. Docencia Universitaria. Orientaciones para la formación del profesorado. Oviedo, Universidad de Oviedo.
- Roselló, Gaspar (2006). *Los nuevos postgrados. Indicadores de calidad*. Ponencia presentada en la jornada de reunión del G-9 celebrada en Oviedo, 8 de Marzo, 2006.
- Suárez Arroyo, Benjamín (2005). *Espacio Europeo de Educación Superior*. En Jornadas “La calidad en las Bibliotecas”. Palma de Mallorca, 13 y 14 de Enero.
- Tejedor, Francisco Javier y García Valcárcel, Ana (2007). *Causas del bajo rendimiento del estudiante universitario (en opinión de los profesores y alumnos)*. *Propuestas de mejora en el Marco del EEES*. Revista de Educación, (342). pp. 443-473.
- Zabalza, Miguel Ángel (2004). *Guía para la planificación didáctica de la docencia universitaria en el marco del EEES*. Documento de trabajo.



## 6. APPENDIX I: Tables of Statistical Results

Resumen de contrastes de hipótesis

	Hipótesis nula	Prueba	Sig.	Decisión
1	La distribución de TEF20012002 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,358	Conserve la hipótesis nula.
2	La distribución de TEX20012002 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,727	Conserve la hipótesis nula.
3	La distribución de TEF20022003 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,244	Conserve la hipótesis nula.
4	La distribución de TEX20022003 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,104	Conserve la hipótesis nula.
5	La distribución de TEF20032004 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,999	Conserve la hipótesis nula.
6	La distribución de TEX20032004 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,986	Conserve la hipótesis nula.
7	La distribución de TEF20042005 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,142	Conserve la hipótesis nula.
8	La distribución de TEX20042005 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,035	Rechace la hipótesis nula.
9	La distribución de TEF20052006 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,113	Conserve la hipótesis nula.
10	La distribución de TEX20052006 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,116	Conserve la hipótesis nula.
11	La distribución de TEF20062007 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,003	Rechace la hipótesis nula.
12	La distribución de TEX20062007 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,001	Rechace la hipótesis nula.
13	La distribución de TEF20072008 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,010	Rechace la hipótesis nula.
14	La distribución de TEX20072008 es la misma entre categorías de PRYT.	Prueba U de Mann-Whitney para muestras independientes	,003	Rechace la hipótesis nula.

Se muestran significaciones asintóticas. El nivel de significación es de ,05.

Figure 9. Summary of the tests of the hypotheses.



Prueba de muestras independientes

		Prueba de Levene para la igualdad de varianzas		Prueba T para la igualdad de medias						
		F	Sig.	t	gl	Sig. (bilateral)	Diferencia de medias	Error tip. de la diferencia	95% Intervalo de confianza para la diferencia	
									Inferior	Superior
TEF20012002	Se han asumido varianzas iguales	1,477	,225	1,018	1042	,309	2,76155	2,71242	-2,56088	8,08399
	No se han asumido varianzas iguales			,985	174,038	,326	2,76155	2,80340	-2,77149	8,29460
TEX20012002	Se han asumido varianzas iguales	2,341	,126	-0,09	1030	,993	-0,1673	1,81114	-3,57066	3,53721
	No se han asumido varianzas iguales			-0,09	170,763	,993	-0,1673	1,88150	-3,73072	3,69727
TEF20022003	Se han asumido varianzas iguales	2,702	,100	1,338	1274	,181	3,37567	2,52360	-1,57519	8,32653
	No se han asumido varianzas iguales			1,292	222,219	,198	3,37567	2,61231	-1,77240	8,52373
TEX20022003	Se han asumido varianzas iguales	,117	,733	1,239	1236	,216	1,99357	1,60905	-1,16320	5,15033
	No se han asumido varianzas iguales			1,233	216,808	,219	1,99357	1,61667	-1,19284	5,17997
TEF20032004	Se han asumido varianzas iguales	3,516	,061	-0,41	1280	,967	-1,10392	2,51645	-5,04074	4,83290
	No se han asumido varianzas iguales			-0,43	224,677	,965	-1,10392	2,39816	-4,82969	4,62185
TEX20032004	Se han asumido varianzas iguales	,253	,615	,022	1240	,982	,03538	1,58407	-3,07237	3,14314
	No se han asumido varianzas iguales			,022	210,722	,982	,03538	1,60057	-3,11979	3,19056
TEF20042005	Se han asumido varianzas iguales	5,611	,018	-1,416	1307	,157	-3,62780	2,56173	-8,65335	1,39774
	No se han asumido varianzas iguales			-1,489	221,695	,138	-3,62780	2,43639	-8,42926	1,17365
TEX20042005	Se han asumido varianzas iguales	,008	,928	-1,499	1263	,134	-2,36890	1,58061	-5,46981	,73201
	No se han asumido varianzas iguales			-1,440	204,192	,151	-2,36890	1,64466	-5,61158	,87379
TEF20052006	Se han asumido varianzas iguales	8,492	,004	-1,675	1244	,094	-4,37294	2,61051	-9,49442	,74855
	No se han asumido varianzas iguales			-1,769	211,534	,078	-4,37294	2,47202	-9,24589	,50002
TEX20052006	Se han asumido varianzas iguales	,002	,964	-1,407	1208	,160	-2,16872	1,54123	-5,19250	,85507
	No se han asumido varianzas iguales			-1,320	192,438	,189	-2,16872	1,64356	-5,41043	1,07299
TEF20062007	Se han asumido varianzas iguales	11,064	,001	-3,192	1172	,001	-8,71843	2,73157	-14,07775	-3,35912
	No se han asumido varianzas iguales			-3,468	183,639	,001	-8,71843	2,51407	-13,67861	-3,75825
TEX20062007	Se han asumido varianzas iguales	6,530	,011	-3,237	1145	,001	-5,14203	1,58850	-8,25873	-2,02533
	No se han asumido varianzas iguales			-3,029	166,962	,003	-5,14203	1,69745	-8,49326	-1,79080
TEF20072008	Se han asumido varianzas iguales	7,176	,007	-2,600	1149	,009	-7,17748	2,76094	-12,59453	-1,76043
	No se han asumido varianzas iguales			-2,812	180,637	,005	-7,17748	2,55286	-12,21475	-2,14021
TEX20072008	Se han asumido varianzas iguales	6,125	,013	-3,171	1095	,002	-5,04575	1,59137	-8,16823	-1,92326
	No se han asumido varianzas iguales			-2,758	159,576	,006	-5,04575	1,82956	-8,65902	-1,43247

Figure 10. Independent sample test results.

THE RELEVANCE OF ECONOMIC REASONS FOR GOVERNMENTAL CHOICES  
ON RENEWABLE ENERGIES IN ITALY\*

**Prof. Federico Testa**

*University of Verona, Department of Business Administration  
Via dell'Artigliere, 19 - 37129 Verona (Italy)  
E-mail: [federico.testa@univr.it](mailto:federico.testa@univr.it)  
Tel. +39 45 8028221; Fax +39 45 8028220*

**Dr. Francesca Simeoni**

*University of Verona, Department of Business Administration  
Via dell'Artigliere, 19 - 37129 Verona (Italy)  
E-mail: [francesca.simeoni@univr.it](mailto:francesca.simeoni@univr.it)  
Tel. +39 45 8028160; Fax +39 45 8028220*

**1. The renewable energy system and the main forms of incentives**

Why have renewable energies been of interest in the past and why is interest even stronger now?

The reasons that motivate experts and politicians comes from the fact that while initially renewable energy sources (RES) were taken into account almost exclusively for their contribution, as home sources, to the security of the national energy system, now they are seen as a way to reduce greenhouse gas emissions and as a motor to drive growth in our industries and increase employment<sup>1</sup>.

Our Country's initial policies, and EU policies, regarding RES incentives, were characterized by the need to achieve "guideline targets" that can be found in the first National Energy Plan dated 1975 and, at the EU level, in the European Council document dated September 16, 1986. Today, in the so-called second stage, characterized by stronger motivations, the targets to be achieved are no longer merely guidelines. In March 2007 the European Council set out "binding targets", known under the name "20-20-20" which stands for the three targets to be achieved by 2020: 20% renewables in final energy consumptions, 20% reduction in greenhouse gas emissions and 20% energy savings.

The first position taken by the Italian Government regarding the European target of 20% renewable energy can be found in the so-called *Position Paper* approved by the Interministerial Committee on European Community Affairs dated September 10<sup>th</sup>, 2007<sup>2</sup>.

In 2009 national sub-targets were set out by which (directive No. 28 dated 2009) Italy must achieve a 17% share of energy from renewable sources in final gross consumption by 2020<sup>3</sup>.

The result is that as of now an important target has been achieved in terms of investments for producing electrical energy from RES. In 2008, worldwide, this investment exceeded that for

---

♣ Even if the paper was discussed together, in writing down the different parts Federico Testa contributed to paragraph 5 and Francesca Simeoni to paragraphs 1,2,3 and 4.

<sup>1</sup> See Testa F., "Aspettando la strategia energetica nazionale", *Management delle utilities*, No. 1, 2011, pages 25-29.

<sup>2</sup> See Republic of Italy, Presidency of the Council of Ministers, *Energia: temi e sfide per l'Europa e per l'Italia. Position Paper del Governo Italiano*, September 10<sup>th</sup>, 2007.

<sup>3</sup> The target of reducing greenhouse gas emissions takes concrete form in Directive 2009/29/EC whereas no directive has been issued yet regarding the 20% energy savings target.

fossil fuel power plants<sup>4</sup>, even though levels that are competitive with traditional sources have not been achieved yet and consequently substantial forms of incentivization continue to be necessary.

As far as incentive destinations are concerned they may be subdivided into:

- incentives to R&D with the consequent problems on choosing between public or private research and on accepting seeing results only in the mid-long term;
- incentives to investments. In this case the main critical factor is choosing between contributions to capital account or by forms of tax cuts on profits;
- incentives to production that directly promotes hoped-for results in terms of covering energy demand with RES.

The purpose of this paper is to reason on the quality of incentive systems, considering the targets to be achieved not only in the short term but also, and above all, in the long term.

In Italy we now mostly see measures as part of incentives to production. But does it (still<sup>5</sup>) make sense to invest in this direction? Would it perhaps not be better to spur research? To answer this question we have first examined what has been done up to this time, attempting to analyze and systematize the various forms of incentives given to production.

## 1.1 Forms of incentives to production and their possible effects

The main forms of production incentives are above all in the sector of electricity production which is now the most developed sector for reasons tied to the possibility to manage and transmit the energy that is produced through grids, collecting it from sites that are remote from the point of consumption and managing (for now) the intermittence of the production. In addition the estimate is that the world demand for electricity will continue to grow much more strongly than any other final form of energy, with an annual growth rate of 2.2% in the period between 2008 and 2035 (with over 80% of this increase absorbed by non-OECD countries)<sup>6</sup>.

These forms of production incentivization affect:

- a. price/bonus,
  - b. quantity,
  - c. total funds disbursed.
- a. The authority, by setting the price, requires the dominant electrical energy supply body to purchase from RES producers at a preset price (single or differentiated according to source). This system, called REFIT (REnewable Feed-In Tariff), was implemented in Italy following Interministerial Price Committee (CIP 6) resolution No. 6 dated April 29<sup>th</sup>, 1992 which obligated Enel to purchase RES energy produced by others paying it at a price calculated as the sum of an “avoided cost”, equal to the amount Enel would have spent to produce an equivalent amount of electricity, and an “incentive component” paid for the first 8 years of operation of the plant. Obviously the moment the sector changes from being a monopoly to being competitive it is no longer possible to force a business to pay this cost but it is necessary to find a third-party subject to whom to guarantee cost coverage. This led to the birth of the Grid Manager, to whom Enel transferred the obligation to purchase at a preset price, and then to the ESM (Energy Services Manager).

Italy, in 2005, in particular for photovoltaic solar energy production, changed from a system based on a price calculation as just described to a similar, and from certain standpoints simplified, system based on calculation of a bonus, a system known as the *Energy Account* (Ministerial Decree dated May 5<sup>th</sup>, 2011 has given us our fourth definition of *Energy Account* in

---

<sup>4</sup> UNEP SEFI, New Energy Finance, *Global Trends in Sustainable Energy Investment 2009 Report*, United Nations Environment Programme, 2009.

<sup>5</sup>The “still” between brackets aims at emphasizing that many different choices can be made to promote the start-up phase of a certain sector when compared to development or maturity phases.

<sup>6</sup> See Agenzia Internazionale per l’Energia, “World Energy outlook 2010: principali conclusioni”, *Energia*, No. 4/2010, pages 8-9.



Italy). What differentiates the price system from the bonus system is the different degree of certainty of results in terms of earnings recorded by RES producers: in the first case these can be calculated 100%; in the second case only the bonus component can be calculated while the earnings component, which comes from selling the energy produced on the market, remains variable.

- b. The second form of production incentivization is based on a quantitative obligation (quota) for production from RES. It is possible to meet this obligation by turning to third parties, in this case turning to the market of negotiable certificates, the so-called “green certificates” (GC) that were introduced in Italy by the Bersani Decree dated 1999. The advantages of this system are the certitude of quantitative results and the absence of a subsidy or financing of the incentive policy. Drawbacks, on the other hand, are in the uncertainty of the total cost that the energy consumer must sustain and of the earnings for producers from RES, uncertainty due to GC price fluctuations on the market<sup>7</sup>.
- c. The third form of incentivization decides *ex ante* the total amount of funds that are to be disbursed and, generally, the proposals of the businesses are accepted or rejected through an auction on the basis of efficiency criteria (ratio between bonus received and energy produced from RES). In the future this will be the case for incentives for Large Photovoltaic Plants (plants on buildings with more than 1 MW power as well as all other plants, not on buildings, which do not use net metering<sup>8</sup>) for which a markdown auction shall be held. The advantages from this form are the certainty of the expense for the incentivization and the fact that the efficiency of the energy production system is favored by competition. There are also, however, drawbacks due to the high transaction costs that discourage small producers and the need for a particularly competent and motivated public administration during and following the various phases of allocation of funds to the different businesses participating in the tender.

The following table summarizes the forms of incentivization together with their advantages and drawbacks:

Table 1: Forms of incentivization: some advantages and drawbacks

<b>FORM OF INCENTIVIZATION on the basis of:</b>	<b>ADVANTAGES</b>	<b>DRAWBACKS</b>
Price	- Certainty of earnings for producers from RES	- In case of competition the need to identify a third-party subject who takes on the burden of purchase
Bonus	- Simplified calculation of the price for purchasing energy from producers from RES	- Partial uncertainty of earnings for producers from RES
Quantity	- Certainty of the result of the incentive policy - Absence of financing of the incentive policy	- Uncertainty of the total cost of energy for the consumer - Uncertainty of earnings for producers from RES
Total funds disbursed	- Certainty of the expense - Stimulus for improving efficiency	- High transaction costs - Need for Public Administration to be competent and motivated

Source: our calculation

<sup>7</sup> The world of so-called “white certificates” is something else. They have a price volatility problem that in fact attracts financial operators and does not spur industrial investments that aim at reducing emissions. See Mercuri R., Clò S., “ETS: volatility of carbon credits and regulatory uncertainty”, *Energia*, No. 4/2010, pages 74-80.

<sup>8</sup> To distinguish the so-called Small Plants envisaged by the Fourth Energy Account these are photovoltaic plants built on buildings and which do not have a power in excess of 1000 kW, other plants (not on buildings) with power not in excess of 200 kW operating in an on-site exchange regime and all plants made on buildings and areas belonging to Public Administrations no matter what the installed power. See Ministerial Decree dated May 5<sup>th</sup>, 2011.

## 2. Analysis of installed power and production from RES at the current state: the emergence of photovoltaic sector

The energy policies taken in Italy have led to substantial and constant increase in installed power and gross production, especially during recent years (tables 2 and 3). From 2001 to 2010 there was a 48.21% total growth in terms of installed power in RES and a 39.49% total growth in terms of gross production from RES.

The sector with the greatest growth, even though it is still residual in percentage terms compared to the total from renewable sources<sup>9</sup>, is the photovoltaic sector which has a trend, in terms of installed power (table 2), that increased more than tenfold in 2007, the year that important changes were introduced with the Second Energy Account (Ministerial Decree dated February 19<sup>th</sup>, 2007). This sector has continued to maintain high growth rates, respectively 164% in 2009 and 155% in 2010.

The wind sector is also in constant growth, increasing by 19% in 2010 compared to 2009, plus biomass and waste with a 19% increase in 2010 compared to 2009.

Hydroelectric and geothermal sectors remain unchanged, without substantial variations.

Table 2: Gross efficient power installed in Italy, 2001-2010 (MW)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010*
Hydroelectric	16.726	16.820	16.970	17.056	17.326	17.412	17.459	17.623	17.721	17.839
% annual growth		0,56%	0,89%	0,51%	1,58%	0,50%	0,27%	0,94%	0,56%	0,67%
Wind	664	780	874	1.131	1.639	1.908	2.714	3.538	4.898	5.850
% annual growth		17,47%	12,05%	29,41%	44,92%	16,41%	42,24%	30,36%	38,44%	19,44%
Biomass and waste	740	892	1.086	1.192	1.195	1.256	1.337	1.555	2.019	2.407
% annual growth		20,54%	21,75%	9,76%	0,25%	5,10%	6,45%	16,31%	29,84%	19,22%
Geothermal	573	707	707	681	711	711	711	711	737	755
% annual growth		23,39%	0,00%	-3,68%	4,41%	0,00%	0,00%	0,00%	3,66%	2,44%
Photovoltaic	7	6	7	7	7	7	87	432	1.142	2.910
% annual growth		-14,29%	16,67%	0,00%	0,00%	0,00%	1142,86%	396,55%	164,35%	154,82%
<b>TOTAL</b>	<b>18.710</b>	<b>19.205</b>	<b>19.644</b>	<b>20.067</b>	<b>20.878</b>	<b>21.294</b>	<b>22.308</b>	<b>23.859</b>	<b>26.517</b>	<b>29.761</b>
% annual growth		<b>2,65%</b>	<b>2,29%</b>	<b>2,15%</b>	<b>4,04%</b>	<b>1,99%</b>	<b>4,76%</b>	<b>6,95%</b>	<b>11,14%</b>	<b>12,23%</b>

\*interim data

Source: our calculations on [www.terna.it](http://www.terna.it). "Dati statistici sull'energia elettrica in Italia", *Quadro di sintesi* al 11 Marzo 2011.

The scenario for photovoltaic is similar in terms of production (table 3) recording an almost 2,000% growth rate in 2007 and a relative decline of growth over the last three years (from a 394.87% in 2008, a 250.26% in 2009 and to a 136.69% in 2010). These same remarks can also be made for wind and biomass and waste energy with output reflecting the percentage of increase observed in terms of power.

The scenario is quite different for hydroelectric power. In this case the growth is considerably lower in 2010 (2.94%) than 2009 (18.05%). However, it should be emphasized, that exploitation of hydroelectric power is strictly conditioned by climate (rainfall) taking place every year. Every study on production trends from this source is always extremely relative.

<sup>9</sup> In 2009 photovoltaic covered 10% of the total gross efficient power installed in Italy from renewable sources and 2% in terms of gross production. See [www.terna.it](http://www.terna.it), "Dati statistici sull'energia elettrica in Italia", *Quadro di sintesi* dated March 11<sup>th</sup> 2011.

The tail-end position is production from geothermal sources, with a 0.30% of growth in 2010.

Table 3: Gross production from RES in Italy, 2001-2010 (GWh)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010*
Hydroelectric	46.810	39.519	36.670	42.338	36.067	26.994	32.815	41.623	49.137	50.582
% annual growth		-15,58%	-7,21%	15,46%	-14,81%	-25,16%	21,56%	26,84%	18,05%	2,94%
Wind	1.179	1.404	1.458	1.847	2.343	2.971	4.034	4.861	6.543	8.449
% annual growth		19,08%	3,85%	26,68%	26,85%	26,80%	35,78%	20,50%	34,60%	29,13%
Biomass and waste	2.587	3.423	4.493	5.637	6.155	6.745	6.954	7.523	7.631	9.281
% annual growth		32,32%	31,26%	25,46%	9,19%	9,59%	3,10%	8,18%	1,44%	21,62%
Geothermal	4.507	4.662	5.341	5.437	5.325	5.527	5.569	5.520	5.342	5.358
% annual growth		3,44%	14,56%	1,80%	-2,06%	3,79%	0,76%	-0,88%	-3,22%	0,30%
Photovoltaic	5	4	5	4	4	2	39	193	676	1.600
% annual growth		-20,00%	25,00%	-20,00%	0,00%	-50,00%	1850,00%	394,87%	250,26%	136,69%
<b>TOTAL</b>	<b>55.088</b>	<b>49.012</b>	<b>47.967</b>	<b>55.263</b>	<b>49.894</b>	<b>42.239</b>	<b>49.411</b>	<b>59.720</b>	<b>69.329</b>	<b>75.270</b>
% annual growth		-11,03%	-2,13%	15,21%	-9,72%	-15,34%	16,98%	20,86%	16,09%	8,57%

\*interim data

Source: our calculations on [www.terna.it](http://www.terna.it). “Dati statistici sull’energia elettrica in Italia”, *Quadro di sintesi* al 11 Marzo 2011.

### 3. RES and learning curves: a few reflections in forms of incentives

If this is the state of the art then the question to ask is whether it is possible to achieve the 20-20-20 target which, for Italy as we have already mentioned, means reaching a percentage of no less than 16% given the ratio between<sup>10</sup>:

$$\frac{\text{GFC from RES}}{\text{total GFC}}$$

Where:

*GFC from RES* = final consumptions of renewable energy (electricity, heat, transportation) + international cooperation measures (statistical exchanges, common projects)

*total GFC* = final consumptions of energy + auxiliary services for generating electricity and heat + distribution losses for electricity and heat

We must consequently first clarify that while the electrical sector is the one most being discussed, achieving the targets certainly cannot be based exclusively on results from investments in this sector but must also include use of RES for thermal and transportation functions (fig. 1).

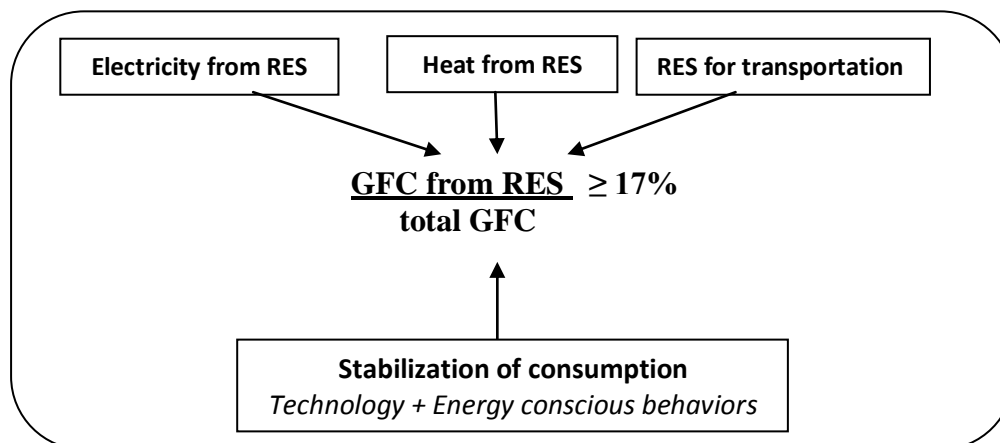
In spite thereof the fact remains that use of energy from RES to produce electricity occupies the greatest share in quantitative terms<sup>11</sup>.

<sup>10</sup> See Montanino G., “Il nuovo quadro italiano per le rinnovabili – Indagine conoscitiva sulle politiche ambientali in relazione alla produzione di energia da fonti rinnovabili”, GSE, House of Representatives – VIII Permanent Commission (environment, territory and public works), Hearing dated May 18<sup>th</sup>, 2011.

<sup>11</sup> Investments in renewables in the electrical sector cover the highest percentage, equal to approximately 28%, followed by the mechanical sector, with a similar share equal to 27%, the building sector (19%), the thermal technology sector (11%) and so forth. See Gilardoni A., Carta M., “Rapporto annuale sulle tendenze strategiche nell’industria delle rinnovabili”, *Management delle utilities*, No. 3, 2009, pag 39.

The ideal energy policy for the future should provide both tools for increasing renewable energies in national energy production and also tools to reduce growth in energy consumption by end users<sup>12</sup>.

Fig. 1: Directions to achieve the target



Source: Montanino G., “Il nuovo quadro italiano per le rinnovabili – Indagine conoscitiva sulle politiche ambientali in relazione alla produzione di energia da fonti rinnovabili”, *GSE, House of Representatives – VIII Parliament Commission (environment, territory and public works)*, Hearing dated May 18<sup>th</sup>, 2011, pag 6

What remains to be examined is the contribution that each renewable source can give in this direction, giving particular attention to an analysis of unit costs which come for the most part from the level of technological innovation and possible exploitation of learning economics, both regarding the initial investment and regarding production of energy itself.

Data available for this analysis is multiple given the many possible national and international sources that can be accessed both regarding the cost of the initial investment and generation costs<sup>13</sup>. Substantial cost intervals clearly emerge from a preliminary analysis, as well as significant differences between data published by different sources, gaps which, however, are justified by the wide range of technologies available on the market for each energy source and on the specific characteristics of each single Country regarding the type and availability of renewable resources.

One constant in all these sources, however, is the decreasing trend in investment costs, a trend that was interrupted for certain types of energy sources, such as photovoltaic in 2007, as a consequence of a sudden high demand not supported by an adequate offering. If we then analyze investment costs in Italy compared to other European Countries we see an appreciable negative gap for our Country due, in addition to the abnormal demand/supply ratio, to dependence on imports of equipment and technologies from abroad, to the consequent lengthy waiting times for carrying out

<sup>12</sup> For example refer to the *ecosustainable loyalty* program by E.ON. (E.ON DoppioVantaggio) where the less the final consumer consumes the more he is awarded by discounts on bills. See interview with Schäfer K., “L’opinione dei protagonisti. Klaus Schäfer: lo sviluppo energetico in Italia”, *Management delle utilities*, No. 1, 2009, pag 54. For a more wide discussion refer to Varvelli R., *Risparmiare energia. Per un futuro sostenibile*, Etas, Milan, 2009.

<sup>13</sup> Accenture – Agici, 2009; IEA, *Technology Foresight Renewables*, 2004; IEA, *Global Status Report*, 2005; IEA, *Energy Technology Perspectives*, 2006, 2008; RWE, *RENEWABLE Fact Book*, 2008; CERA, *The future of clean energy*, 2007; Lorenzoni A., Bano L., *I costi di generazione di energia elettrica da fonti rinnovabili*, 2007; ENEL, 2009; Assoelettrica, 2007. For a preliminary analysis of data from these sources refer to the Osservatorio sull’industria delle rinnovabili, *Rapporto 2009. Tendenze strategiche nell’industria delle rinnovabili*, AGICI Finanza d’Impresa, 2009.

orders and to the high level of incentives, all reasons that create critical situations for development of the renewables in Italy.

Having said that we can identify a schedule of investment costs for production from RES and then proceed with the analysis that is the subject matter of this paper.

The learning curves applied to the costs being considered were based on the Learning Rate<sup>14</sup> envisaged by the IEA (International Energy Agency) for each renewable source (table 4).

Table 4: Future Learning Rates envisaged by the IEA for RES technologies

<b>Technology</b>	<b>Learning Rate %</b>
<i>Hydroelectric</i>	5%
<i>On-shore wind</i>	7%
<i>Off-shore wind</i>	9%
<i>Biomass</i>	5%
<i>Geothermal</i>	5%
<i>Solar photovoltaic</i>	20% <sup>15</sup>
<i>Solar thermodynamic</i>	10%
<i>Waves and tides</i>	5%

Source: Our calculations from the Osservatorio sull'industria delle rinnovabili, op.cit., pag 136<sup>16</sup>

These learning curves were used both to analyze investment costs and also for generation costs. The resultant costs are shown in table 5 with respect to installed powers in 2008 and a projection to 2020, assuming the forecasts published in the Position Paper<sup>17</sup>.

It is important to emphasize that these forecasts are the result of calculations on the basis of available sector knowledge and in consideration of the Italian and world economic situation. It is therefore reasonably plausible that these 2020 forecasts may not be confirmed in reality.

<sup>14</sup> For every doubling of cumulative production the unit cost decreases by a fixed percentage, called the learning rate. See Osservatorio sull'industria delle rinnovabili, op. cit., pag 134. For a thorough examination of the meaning of the learning curve see the first important study by Hirschmann W.B., "Profit from the Learning Curve", *Harvard Business Review*, No. 42, 1964, pages 125-139.

<sup>15</sup> Estimates for photovoltaic include three different assumptions: 15%, 18% and 20%. This analysis chose to use a 20% rate, consequently assuming an important learning factor.

<sup>16</sup> Main source IEA, *Energy Technology Perspectives*, 2006, 2008.

<sup>17</sup> See Republic of Italy, Presidency of the Council of Ministers, *Energia: temi e sfide per l'Europa e per l'Italia. Position Paper del Governo Italiano*, op. cit.

Table 5: Costs for investment and generation of RES in Italy including the effects of learning curves, 2008-2020

	Installed power MW		Investment cost €/kW		Generation cost €/MWh	
	2008	2020	2008	2020	2008	2020
River hydroelectric >10 MW	3172	3870	2200	2176	78-95	77-95
Reservoir hydroelectric >10 MW	11831	12130	2500	2497	145-178	145-177
Mini hydroelectric	2597	4200	3200	3101	116-141	113-138
On-shore wind	3737	10000	1630	1480	122-149	113-139
Solid biomass	1036	1923	3620	3465	236-264	233-260
Dump site biogas	291	394	1600	1572	53-65	53-64
Farm residue biogas	72	98.4	3200	3141	93-114	92-113
Geothermal	724	1000	3800	3727	71-87	70-85
Solar photovoltaic >200 kW	59	1000	4500	2013	418-511	207-254
Solar photovoltaic <20 kW	243	7500	6250	2352	447-547	205-251
Off-shore wind*	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Solar thermodynamic*	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Waves and tides*	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.

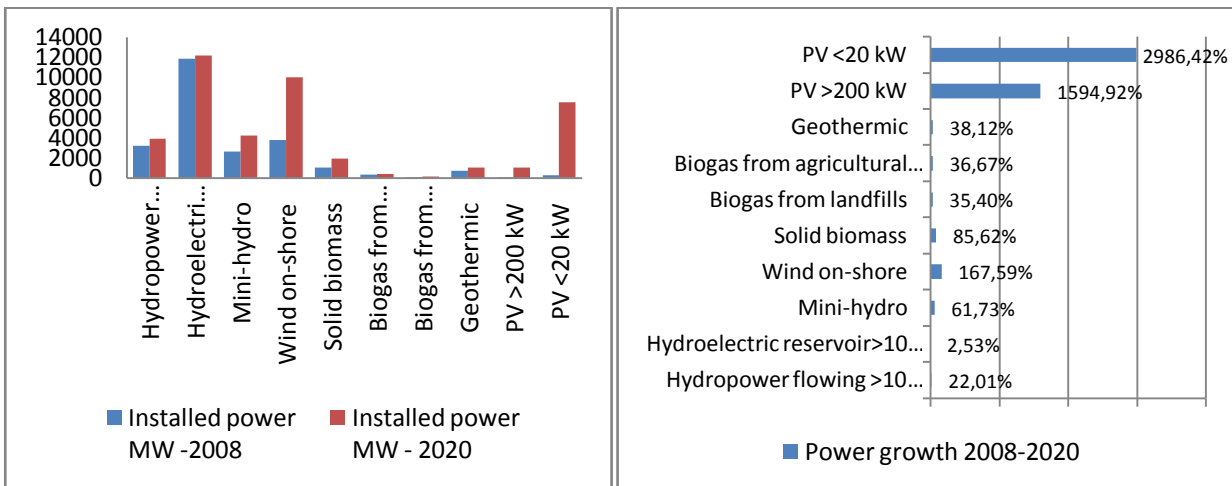
\*not received (n.r.) for processing Italy data

Source: Our calculations from the Osservatorio sull'industria delle rinnovabili, op.cit.

In absolute terms the main installed power, in 2008 as in 2020, is from reservoir hydroelectric but it is important to note that, even with the non-homogeneity of quantitative data given for the various sources being considered, while in 2008 this energy source is much more important than the others, covering at least half of installed power, in 2020 this percentage drops to 27% in favor of on-shore wind plus photovoltaic (especially small size) which, together, cover 42% of total installed power (in 2008 this percentage is 16%).

This result is the result of different foreseeable growth rates from 2008 to 2020 in installed power from different renewable energy sources (fig. 2).

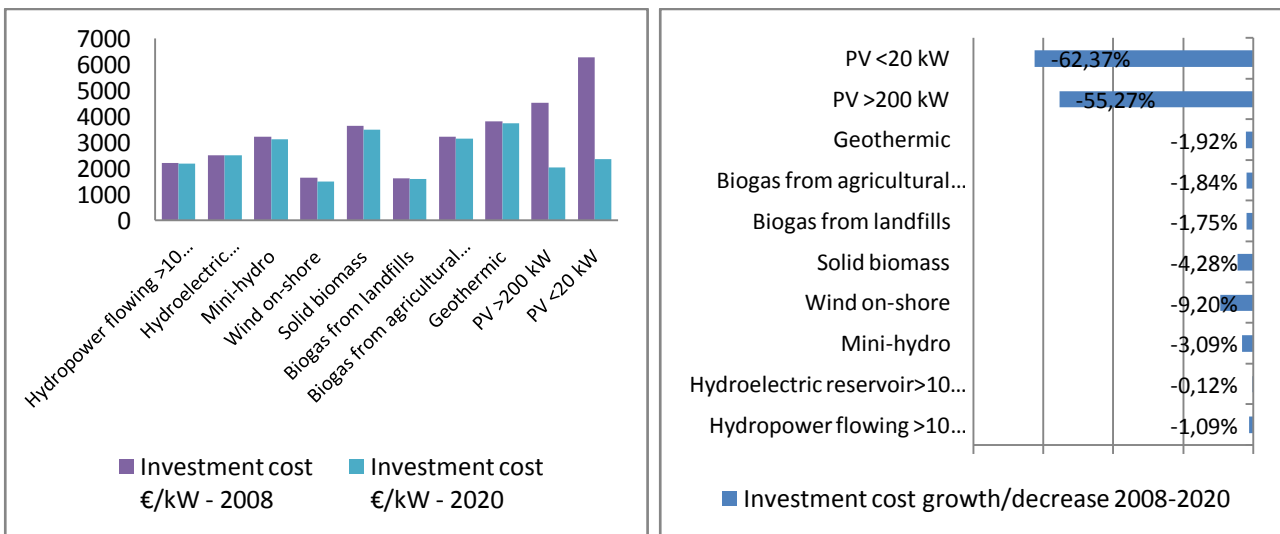
Fig. 2: Installed power, Italy 2008-2020



Source: Our calculations from the Osservatorio sull'industria delle rinnovabili, op.cit.

This prospect for installed power is certainly a consequence of the forecast of the trend in costs tied to investments (fig. 3). Note, in fact, that for photovoltaic (<20kW) the decrease in the investment cost is equal to 62.37% for hydroelectric, considering the maturity of this sector, the foreseeable decrease is equal to 0.12% only.

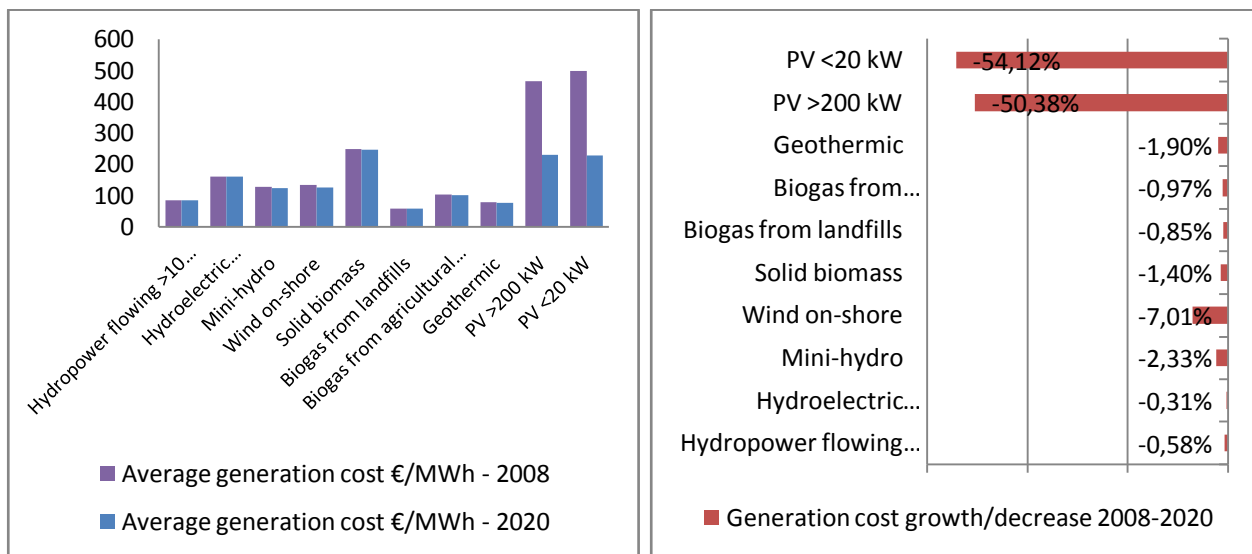
Fig. 3: Investment cost €/kW, Italy 2008-2020



Source: Our calculations from the Osservatorio sull'industria delle rinnovabili, op.cit.

The same scenario can be seen by analyzing generation costs (fig. 4). Costs for producing energy from small size photovoltaic systems decrease by 54.12% from 2008 to 2020 while these same costs, for reservoir hydroelectric energy, only drop by 0.31%. Observe, however, regarding energy production, that even in 2020, as is the case today, one MWh of photovoltaic power will cost more than one MWh of hydroelectric production.

Fig. 4: Generation cost €/MWh, Italy 2008-2020 (average values)



Source: Our calculations from the Osservatorio sull'industria delle rinnovabili, op.cit.

This analysis leads us to reflect on the forms of incentives, meaning that a look at the future should identify a form of support aimed at promoting investments in research and development to find new technologies that achieve savings in unit production terms and not only in terms of initial investment.

If we go back to the forms of incentives summarized on the first pages of this paper we can state that incentives to R&D and to investments should generate better results than incentives to production which in some cases award production per se irrespective of the cost sustained in unitary terms.

Incentives to research would permit Italian businesses to enter into the production chain upstream, thus avoiding excessive forms of *early market penetration*<sup>18</sup>. It is estimated that approximately 75% of Italian businesses work downstream from the production chain, the less profitable chain, whereas upstream (silicon and wafer production) is almost exclusively done by foreign businesses<sup>19</sup>. Italian businesses involved in producing cells and modules are small in size and are primarily *system integrators*. In addition, regarding distribution and installation, their small size compared to foreign competitors has the result that while Italian businesses are able to maintain a fair position on the residential market they lose shares in industrial segments<sup>20</sup>, a sector that is highly concentrated and that presents financial and technological barriers (the cost for a 600MW plant is about 400 million Euro in 3 years).

A timid and indirect sign in the direction of boosting Italian industry and research can be found in the Fourth Energy Account, where it envisages a further 10% increase in incentive rates

<sup>18</sup> *Early market penetration* is understood to be investments in and incentives for products that have successfully traveled that chain, in some part of the world, not necessarily in the Country that disburses the incentives; introducing this type of aid, especially generous and costly in Italy in particular, without having first adequately promoted the innovation chain does not foster solid and enduring industrial growth but ends up by especially feeding financial and speculative aspects of that which everyone calls, with a well-abused term, the *Green Economy*. From an interview with professor Giuseppe Zollino, University of Padua, collected by Gorla F., "L'Italia alla prova della Green Economy", AGI Energia, May 11<sup>th</sup>, 2010.

<sup>19</sup> See Energy and Strategy Group, 2011

<sup>20</sup> See Beccarello M., "Le fonti rinnovabili e la posizione di Confindustria sul fotovoltaico", *Confindustria Position Paper*, April 2011, pag 24.



for plants which investment costs, regarding components other than labor, can be assigned for not less than 60% to production achieved inside the European Union<sup>21</sup>.

Add to this that, if the investment incentive path is taken the best form is probably that of abating taxes on profits rather than a contribution to the capital account. This because this form of incentive would favor research towards higher efficiency levels over the entire useful life of the investment and not only at the start.

If, on the other hand, the decision is to opt for a production incentive then the worst form would seem to be the “quantity” form and better forms would be based on a “bonus” or on “total funds disbursed”<sup>22</sup>.

#### 4. Exploitation of economies of scale: reality or utopia in the renewables sector?

An analysis of available data leads to the conclusion that the renewable energy sector is clearly in a state of strong growth and that some of the various different forms of energy production, such as photovoltaic, have better prospects than others.

What remains to investigate, after the proper remarks on the economic effects arising from applying learning curves<sup>23</sup> consequent to a shared assumption of a positive L.R. for all renewable sources ranging from 5% for hydroelectric, biomass, geothermal, waves and tides up to a 20% for photovoltaic (table 4), is the question of economies of scale.

It is well-known, in fact, that the learning curve model, which attempts to include all business functions and consequently consider average total costs and not only those connected to direct labor productivity, is more correctly to be found in experience curves. “The experience curve (...) composes and summarizes a triple order of economic factors: the *old* learning factor, economies of scale and *economies from technological progress* that typically lead to replacement of labor with capital,”<sup>24</sup>.

In this regard there is at least one thesis against possible economies of scale that starts from the assumption that “the costs of the manufacturing sector and those of the energy move together with a degree of correlation equal to 1”<sup>25</sup>. The result is that “the costs of raw materials and equipment necessary to make renewable energy systems will increase in parallel with the costs of energy in general so that renewables will not be able to really enjoy a cost advantage”<sup>26</sup>.

There are many technical reasons that generate these consequence and which regard, even though in a different way, all renewable sources. For example regarding solar energy one evident problem is the intermittence of its availability and the consequent problems this has with the grid. Regarding wind energy the problem regards actual energy production over a 12-month period, in some cases production is estimated to be 1/3<sup>rd</sup> of the rated power of the turbine<sup>27</sup>. The problems with energy from waves and tides with regard local situations and, as with solar energy, regard the intermittence of energy production.

One theme to deal with, given these critical situations is that of energy storage and subsequent large scale transmission. From this point of view and regarding, in particular, problems tied to electricity storage, while economies of scale can be identified for plants located in favorable positions thanks to pumping basins of hydroelectric plants, up to now these economies cannot be achieved for plants located in less favorable areas and which require storage devices such as

---

<sup>21</sup> See Montanino G., “Il nuovo quadro italiano per le rinnovabili”, op. cit., pag 45.

<sup>22</sup> See table 1.

<sup>23</sup> See the previous paragraph.

<sup>24</sup> See Panati G, Golinelli G.M., *Tecnica economica industriale e commerciale – Volume secondo*, NIS, Rome, 1994, pag 573.

<sup>25</sup> See Parker H.W., “Le fonti rinnovabili beneficiano di economie di scala?”, *Energia*, No. 3/2009, pag 44. The Author demonstrated this thesis in his previous work Parker H.W., “Cost shift signals changes in energy investment”, *The Oil and Gas Journal*, v. 106, No. 49, 2008.

<sup>26</sup> See Parker H.W., “Le fonti rinnovabili beneficiano di economie di scala?”, op. cit., pag 44.

<sup>27</sup> Ibid, pag 48.

batteries or capacitors, devices that today are economically acceptable only for small production systems.

#### 4.1 The grid: a crucial factor

The analysis carried out leads us to assert that it is possible to exploit economies of scale in the renewables sector even though the best results could be clearly achieved only if we can solve some problems tied to the electric grid.

In particular, if we examine which areas in Italy have the greatest potential for, for example, wind and solar energy, we find that just in these areas in Southern Italy and on the Islands, there are the greatest problems tied to the development the electric grid and the consequent presence of “bottlenecks” in energy transmission. These grid problems cause low quality levels in transmission and energy sales services with consequences both in terms of energy losses and in terms of motivating potential investors<sup>28</sup>.

As a general rule the current situation of the electrical system in our Country is rather worrisome when we think that, when distinguishing RES into intermittent and non-intermittent sources<sup>29</sup>, in the first category we find precisely wind and solar that are the sectors recording the greatest growth rates whereas hydroelectric, geothermal and biomass, which seem to have lower incentive levels and for this reason as well now have lower growth rates, are classified in the second category.

The problem of intermittence is less important for solar because Nature (in our case the Sun) makes the production plants supply the most precisely when there is the greatest demand for energy, during daytime hours and during summer<sup>30</sup>. The problem gets more complicated for wind energy which can hardly increase production when demand rises (think of the reduced or missing Summer winds, at least in Italy), is subject to great fluctuations and often is present (the wind) in sites distant from where the demand is.

Biomass, among non-intermittent sources, merits greater investigation because this source is believed to be the only one, in this category, with growth potential. There is a problem with biomass, however, which regards proliferation of small size projects (20/40 MW) selected primarily to overcome difficulties in procurement of raw materials<sup>31</sup>. Large-scale plants would be preferable from an economic and technical standpoint because they have a decidedly favorable impact on generation costs, with thermodynamic efficiency on the order of 36-38% compared to the 27% that can be achieved with a small size plant.

Large-scale plants, irrespective of the renewable source they exploit, also have the great advantage of reducing investment costs thanks to having a single connection to the grid, a cost that cannot be neglected when speaking of any RES.

The assumption of creating an energy system from renewable sources composed primarily of small size plants risks raising energy costs for end consumers because it would be necessary to modify, if not actually rebuild, the electric grid. This is even more evident when we note that up to now the costs for distributing the energy produced by renewable sources have primarily been

---

<sup>28</sup> See Conti S., “Le prospettive delle fonti rinnovabili: la rete elettrica come opportunità di sviluppo”, *Management delle Utilities*, No. 3, 2009, pages 50-51.

<sup>29</sup> See Carta M., “The impact of the development of renewable on grids and the security of the electric system”, *Management delle Utilities*, No. 3, 2009, pages 86-89.

<sup>30</sup> Another paper in favor of photovoltaic is also interesting, comparing different and contrasting reports, analyzing the two to show that “the photovoltaic solution is the winner in terms of economics, operating simplicity, territorial impact, adaptability to the greatest number of social and climatic conditions”. See Zorzoli G.B., “Alcune rinnovabili sono più uguali di altre”, *Energia*, No. 3, 2009, pages 36-42.

<sup>31</sup> See Bonaldi E., “Large Scale Biomass. Il caso Global Wood Holding”, *Management delle Utilities*, No. 1, 2009, pages 48-50.

sustained by society. Such a scenario would preclude any reasoning on the renewables potential as flywheel to boost the economy of the country<sup>32</sup>.

## 5. Incentives to research: motivating development of the sector

It has been shown, from the standpoint of the relationship between achieved production and installed power, that until 2009 geothermal and biomass sectors achieved the best results although there is no doubt, and data confirms this, that photovoltaic is the renewable energy source which, thanks to the incentives that were disbursed, recorded the best growth rates both in terms of installed power and in achieved production. In spite thereof, from the economic standpoint, photovoltaic today is still the most costly investment. even though the learning curves that were considered (if they are *ex post* confirmed) let us forecast a substantial drop in these costs in future years.

The conclusion, again from an economic standpoint, is different if we consider the costs for energy production. In fact if photovoltaic today is still the most costly the estimate for 2020 is for a strong reduction, although not enough to bring it below the mean cost threshold for production from RES.

Consequently definition of a correct incentives policy will clearly have differential effects on the future of renewables<sup>33</sup>. To be hoped for, in particular, are choices that give incentives to research on production efficiency, both by better exploiting the learning curves and by improving the technologies available for systems and grids. A solution to the grid problem would lead to more advantageous economies of scale, leading to an increase in the rate of reduction of the costs for production from large size photovoltaic systems, a rate that today is seen to be lower compared to what can be foreseen for small size plants (fig. 4).

The development of renewables industry would also lead to other important results in terms, for example, of employment: just think of examples in Navarra, Denmark or in nearby Germany<sup>34</sup>. But if we look at positive effects on the world of labor we must also, for the purpose of complementing the analysis, examine some negative aspects which translate into the costs of these jobs and the identification of the subject who should sustain these costs. Some persons, in fact, maintain that many of the jobs would be lost first of all because of the increase in the cost of energy (due to the need to cover differences with subsidies). They also maintain that the multiplier, in terms of jobs, seems decidedly more to favor the manufacturing sector and also the average economy<sup>35</sup>.

In particular an analysis of growth in Italian industry producing high energy efficiency goods<sup>36</sup> shows that the overall economic impact (achieved thanks to inter-industrial relations measured using input-output tables) would be absolutely positive<sup>37</sup>.

But above and beyond the indisputable positive results that could be achieved by developing different manufacturing sectors the problem for investments in the energy sector goes back to the choice, made up to now, to especially give incentives to the downstream phases in the production chain and not the upstream phases.

---

<sup>32</sup> See AA.VV., "Speciale Osservatorio sull'Industria delle Rinnovabili", *Management delle Utilities*, No. 3, 2009, pag 35.

<sup>33</sup> An interesting investigation shows that the current incentive system in Italy is not (yet) sufficient to reach the 20-20 targets. See Bollino C. A., "The Willingness to Pay for Renewable Energy Sources: The Case of Italy with Socio-demographic Determinants", *The Energy Journal*, vol. 30, No. 2, 2009, pages 81-96. The paper by Sciortino A., "Quale evoluzione per il mix di generazione italiano?", *Management delle utilities*, No.2, 2009, pages 20-26 comes to the same conclusion although from a different standpoint that focuses on an ideal energy generation mix for Italy.

<sup>34</sup> For a brief reminder of certain data see Silvestrini G., "Perchè sì/La ripresa è green", AGI Energia, May 11<sup>th</sup>, 2010.

<sup>35</sup> Again in brief see. Lavecchia L., Stagnaro C., "Perchè no/Green forse, jobs no", AGI Energia, May 11<sup>th</sup>, 2010.

<sup>36</sup> Regarding which we point out that we are still waiting, in Italy, for the translation into National directive for the 20% energy savings target by 2020.

<sup>37</sup> Beccarello M., "Le fonti rinnovabili"op. cit., pag 29.

In addition to the labor market, in fact, other possible positive results could be had from upstream development of the renewables industry in terms of GDP, industrial reconversion<sup>38</sup> of certain businesses and certain sectors, of *brand* with respect to *made in Italy* on technology and equipment engineering<sup>39</sup> and for many other reasons.

It is also necessary to consider that not all investments in renewables would have the same real fallout on the Italian industrial system. A choice must be made between renewable sources where Italy can be competitive in terms of costs and quality and in terms of technological product innovation. Today, internationally, the Italian *brand* is known for biomass, geothermal and hydroelectric. The same cannot be said for wind and solar<sup>40</sup>, sectors with strong barriers to entry coming mainly from the cost of investments and the concentration of know-how<sup>41</sup>.

The path to take in the renewables sector is still a long one and will require efforts both from public and private sectors to influence both demand and supply, focusing attention not only on incentives<sup>42</sup> but on a mix of different but coordinated tools and policies<sup>43</sup> which are transparent, certain and stable over time<sup>44</sup>.

## Bibliography

- AA. VV., *Solar Energy Report. Il sistema industriale italiano nel business dell'energia solare*, Milan Politecnico, Department of Management Engineering, 2009 edition.
- AA.VV., "Speciale Osservatorio sull'Industria delle Rinnovabili", *Management delle Utilities*, No. 3, 2009.
- Accenture – Agici, 2009.
- Agenzia Internazionale per l'Energia, "World Energy outlook 2010: principali conclusioni", *Energia*, No. 4/2010.
- Assoelettrica, 2007.
- Beccarello M., "Le fonti rinnovabili e la posizione di Confindustria sul fotovoltaico", *Confindustria Position Paper*, April 2011.
- Bertaglio A., "Luce e riscaldamento", *Terra Nuova*, February 2010.
- Bollino C. A., "The Willingness to Pay for Renewable Energy Sources: The Case of Italy with Socio-demographic Determinants", *The Energy Journal*, vol. 30, No. 2, 2009.
- Bonaldi E., "Large Scale Biomass. Il caso Global Wood Holding", *Management delle Utilities*, No. 1, 2009.
- Carta M., "Industria meccanica: storia e prospettive di un settore chiave per lo sviluppo delle rinnovabili", *Management delle utilities*, No.1, 2010.
- Carta M., "The impact of the development of renewable on grids and the security of the electric system", *Management delle Utilities*, No. 3, 2009.
- CERA, *The future of clean energy*, 2007.

---

<sup>38</sup> See Bertaglio A., "Luce e riscaldamento", *Terra Nuova*, February 2010, pages 36-39. This article examines a possible reconversion of the automobile industry to produce high efficiency micro-co-generators able to simultaneously generate heat and electricity.

<sup>39</sup> For a brief analysis of current problems in Italy for industrial growth connected to renewables see Carta M., "Industria meccanica: storia e prospettive di un settore chiave per lo sviluppo delle rinnovabili", *Management delle utilities*, No.1, 2010, pages 14-15 and Sciortino N., "Industria e tecnologie per lo sviluppo delle rinnovabili: quali prospettive per l'Italia?", *Management delle utilities*, No.1, 2010, pages 16-22.

<sup>40</sup> Excluding perhaps concentrating solar. Concentrating photovoltaics (CPV – Concentrating Photovoltaic) offer to reduce plant costs by reducing the amount of semiconductor materials employed in the cells and which are the main cost in a photovoltaic system. (...) concentration, in addition to a drastic reduction in use of materials, also generally offers higher cell efficiency. See AA. VV., *Solar Energy Report. Il sistema industriale italiano nel business dell'energia solare*, Milan Politecnico, Department of Management Engineering, 2009 edition, pag 29.

<sup>41</sup> See Gilardoni A., Carta M., "rapporto annuale", op. cit., pag 40.

<sup>42</sup> See Montanino G., Benedetti L., Morelli S., Racchetti A., "Lo sviluppo delle rinnovabili nel settore elettrico verso il traguardo del 2020", *Economia delle fonti di energia e dell'ambiente*, No. 1, 2010, pag 34, where it is emphasized that obligations, information, formation of an energy culture and stimulus towards good behaviors, simplification of permit procedures, stabilization of the regulatory framework and strengthening of the transmission and distribution grid: these are the horses to back to win the race, avoiding also paying with these incentives the price for failings in these measures.

<sup>43</sup> See Mahone A., Woo C.K., Williams J., Horowitz I., "Renewable portfolio standards and cost-effective energy-efficiency investment", *Energy Policy*, No. 37, 2009, pag 774.

<sup>44</sup> See AA.VV., "Speciale Osservatorio sull'Industria delle Rinnovabili", *Management delle Utilities*, No. 3/2009, pages 35-68.

Conti S., “Le prospettive delle fonti rinnovabili: la rete elettrica come opportunità di sviluppo”, *Management delle Utilities*, No. 3, 2009.

ENEL, 2009.

Energy and Strategy Group, 2011.

Gilardoni A., Carta M., “Rapporto annuale sulle tendenze strategiche nell’industria delle rinnovabili”, *Management delle utilities*, No. 3, 2009.

Goria F., “L’Italia alla prova della Green Economy”, AGI Energia, May 11<sup>th</sup>, 2010.

Hirschmann W.B., “Profit from the Learning Curve”, *Harvard Business Review*, No. 42, 1964.

IEA, *Energy Technology Perspectives*, 2006, 2008.

IEA, *Global Status Report*, 2005.

IEA, *Technology Foresight Renewables*, 2004.

Interview with Schäfer K., “L’opinione dei protagonist. Klaus Schäfer: lo sviluppo energetico in Italia”, *Management delle utilities*, No. 1, 2009.

Lavecchia L., Stagnaro C., “Perchè no/Green forse, jobs no”, AGI Energia, May 11<sup>th</sup>, 2010.

Lorenzoni A., Bano L., *I costi di generazione di energia elettrica da fonti rinnovabili*, 2007.

Mahone A., Woo C.K., Williams J., Horowitz I., “Renewable portfolio standards and cost-effective energy-efficiency investment”, *Energy Policy*, No. 37, 2009.

Mercuri R., Clò S., “ETS: volatility of carbon credits and regulatory uncertainty”, *Energia*, No. 4/2010.

Ministerial Decree dated May 5<sup>th</sup>, 2011.

Montanino G., “Il nuovo quadro italiano per le rinnovabili – Indagine conoscitiva sulle politiche ambientali in relazione alla produzione di energia da fonti rinnovabili”, *GSE*, House of Representatives – VIII Permanent Commission (environment, territory and public works), Hearing dated May 18<sup>th</sup>, 2011.

Montanino G., Benedetti L., Morelli S., Racchetti A., “Lo sviluppo delle rinnovabili nel settore elettrico verso il traguardo del 2020”, *Economia delle fonti di energia e dell’ambiente*, No. 1, 2010.

Osservatorio sull’industria delle rinnovabili, *Rapporto 2009. Tendenze strategiche nell’industria delle rinnovabili*, AGICI Finanza d’Impresa, 2009.

Panati G., Golinelli G.M., *Tecnica economica industriale e commerciale – Volume secondo*, NIS, Rome, 1994.

Parker H.W., “Cost shift signals changes in energy investment”, *The Oil and Gas Journal*, v. 106, No. 49, 2008.

Parker H.W., “Le fonti rinnovabili beneficiano di economie di scala?”, *Energia*, No. 3/2009.

Republic of Italy, Presidency of the Council of Ministers, *Energia: temi e sfide per l’Europa e per l’Italia. Position Paper del Governo Italiano*, September 10<sup>th</sup>, 2007.

RWE, *RENEWABLE, Fact Book*, 2008.

Sciortino A., “Quale evoluzione per il mix di generazione italiano?”, *Management delle utilities*, No.2, 2009.

Sciortino N., “Industria e tecnologie per lo sviluppo delle rinnovabili: quali prospettive per l’Italia?”, *Management delle utilities*, No.1, 2010.

Silvestrini G., “Perchè sì/La ripresa è green”, AGI Energia, May 11<sup>th</sup>, 2010.

Testa F., “Aspettando la strategia energetica nazionale”, *Management delle utilities*, No. 1, 2011.

UNEP SEFI, New Energy Finance, *Global Trends in Sustainable Energy Investment 2009 Report*, United Nations Environment Programme, 2009.

Varvelli R., *Risparmiare energia. Per un futuro sostenibile*, Etas, Milan, 2009.

www.terna.it, “Dati statistici sull’energia elettrica in Italia”, *Quadro di sintesi* dated March 11<sup>th</sup> 2011.

Zorzoli G.B., “Alcune rinnovabili sono più uguali di altre”, *Energia*, No. 3, 2009.

# CREATING VALUE IN HIGHER EDUCATION INSTITUTIONS

Ivan Tomašević<sup>1</sup>, Dragana Stojanović<sup>2</sup>, Barbara Simeunović<sup>3</sup>, Milić Radović<sup>4</sup>, Bisera Andrić-Gušavac<sup>5</sup>

<sup>1</sup>Faculty of organizational sciences, [tomasevici@fon.rs](mailto:tomasevici@fon.rs)

<sup>2</sup>Faculty of organizational sciences, [stojanovicd@fon.rs](mailto:stojanovicd@fon.rs)

<sup>3</sup>Faculty of organizational sciences, [tisma@fon.rs](mailto:tisma@fon.rs)

<sup>4</sup>Faculty of organizational sciences, [milic.radovic@fon.rs](mailto:milic.radovic@fon.rs)

<sup>5</sup>Faculty of organizational sciences, [bisera@fon.rs](mailto:bisera@fon.rs)

**Abstract:** Higher education institutions (HEI) are rarely considered from “business” or “customer” perspective, but the bottom line is that they exist to serve the needs of a client group, and foremost among those clients are students. All of HEIs carry out a complex range of processes in order to deliver services to their users, be it teaching and education or research and scientific development. Many of these processes have the potential to be improved, but the question is how to tackle them, how to prioritize things that need to be done, and how to ensure that all improvement efforts are aligned with the strategic goals of a HEI. The paper will try to propose the way of transforming higher education system into effective and efficient set of business processes in order to create conditions for full use of Business Process Management principles.

**Key words:** higher education, business process management, process improvement

## 1. Introduction

Universities, colleges and other degree-granting institutions are undergoing rapid changes around the world which have driven mergers and the creation of intra-institutional partnerships for teaching and research. Budgetary pressures have forced them to do more with less, while there is an increased enrolment of a wider spectrum of students with more diverse educational needs that must be served. Expansion of higher education has led to a need for improved efficiency in administrative services, along with a greater range and flexibility in degree programmes than currently exists: new organizational structures are required (Ford *et al.*, 1996). Besides this expansion, a number of other interrelated pressures have created the need for change in HEIs: changing student profile; pressures from industry; increased competition; information technology (IT) capability (Armstrong *et al.*, 1997; Ford *et al.*, 1996; Slowey, 1995).

All educational establishments, from small specialist colleges to large multi-campus institutions, carry out a complex range of processes in order to deliver learning, teaching, or research work to the end user/customer. Higher Education Institutions (HEI) typically rely on manual processes and stand alone applications. By allowing institutions to automate tasks and decrease turnaround time, Business Process Management (BPM) helps organizations manage Admissions, Administrative, Student Services, and other key areas more effectively. BPM automation helps to shorten processing cycles, increase flexibility of software applications,

and maintain consistency in routine procedures. Colleges and universities need efficient business processing in order to provide first-rate services to students, faculty and staff. It is generally recognized that some of those processes could be improved but it is often difficult to know how to tackle the issues or indeed what to tackle first.

Although HEIs are not usually talked about in terms of “business” and “customers”, one cannot escape the conclusion that they exist to serve the needs of a client group, and foremost amongst those clients is the student. What many people don't realize is that the “business” in “business process management” can represent organizations of any kind. Education differs from other types of “business” in a number of significant ways. It operates within a controlled environment of external controls, shared governance, participative process and shared power. Also, although income generation forms are an increasingly significant part of HEI's activities, they are run on an essentially “not for profit” basis. These factors limit the usefulness of many models developed in the commercial sector but this does not mean that one cannot learn anything from established good business practice in other large organizations.

In spite of academics' often skeptical stance against Business Process Re-Engineering (BPR) and other management concepts (Birnbaum, 1988), which may seem foreign to the organizational culture of higher education, many universities have reengineered their internal processes. A number of HEIs are currently attempting to use BPR as a change management strategy to obtain improvements in service. BPR arose at the beginning of the 1990s following attempts by large US companies to use Information Technology (IT), for linking business processes that cut across functional boundaries (Hammer & Champy, 1993). Implementing new information systems is often a driver for considering how to carry out business processes but technological change is not necessarily needed (although it can help a great deal) to do things in a better way.

Although there is a seemingly infinite set of tasks that are performed in any modern-day university, these myriad tasks can be analyzed using the notion of a value chain (Sison *et al.*, 2000). The goal of this paper is to suggest a generic HEI value chain, derived from a high-level process model, which can be used as a visual management tool in various change programs in higher education.

## **2. Value chain**

The value chain is a systematic approach to examining the development of competitive advantage introduced by M. E. Porter in his book “Competitive Advantage” (Porter, 1985). Porter claimed that the achievement of competitive advantage is directly related to the way the organization connects its activities in the chain that creates value and meets the needs of customers in the market. In addition, Porter defines competitive advantage as a situation where one company dominates the industry in which it operates for an extended period of time. In other words, the activities (rather than organizational units) within the business system, and the way they are organized, represent a source of competitive advantages. The

activities within the organization are divided into *primary activities* and *support activities* (Figure 1). The value chain is a model that describes a series of value-adding activities connecting a company's supply side (inbound logistics and production processes) with its demand side (outbound logistics, marketing and sales, services) By analyzing the stages of a value chain, companies and institutions can redesign their processes to improve efficiency and effectiveness.

The generic value chain includes Inbound Logistics, Operations, Outbound Logistics, Marketing & Sales and After-sales Services, which are specific to each operating system, regardless of its activity. Value chain can be seen as the biggest process in the business system, which can later be divided into smaller processes.

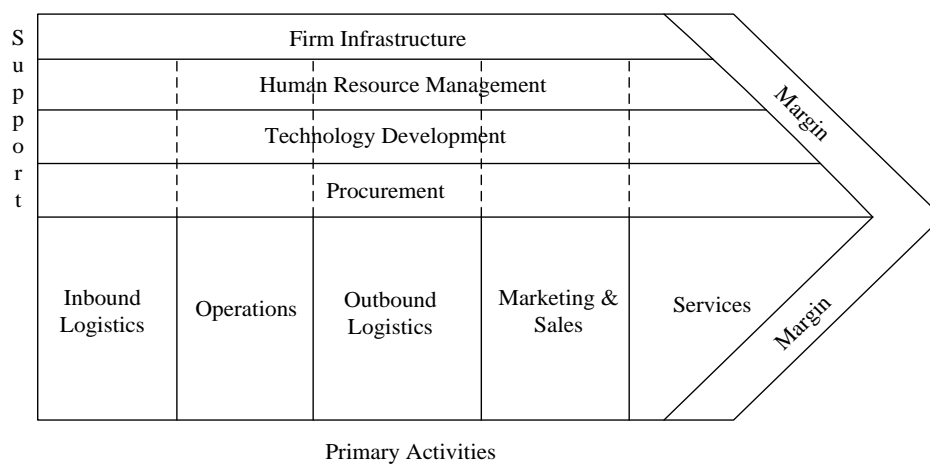


Figure 1: Generic value chain, according to Porter (Porter, 1985)

In addition to these core activities (or core processes), Porter has identified a number of activities that support the operation of core activities. Support activities include Firm Infrastructure, Human Resource Management, Technology Development and Procurement. By using such division, Porter was one of the first to point out the difference between operational process and supporting processes.

According to Gabriel (Gabriel, 2005.), Porters value chain cannot be used in service sector directly, but it can be used as one of the stepping-stones to design service value chain. The author argues that, due the nature of the services, a different version of the value chain is needed for the service sector. Value chain for services consist of five primary attributes and four supporting attributes (Figure 2).



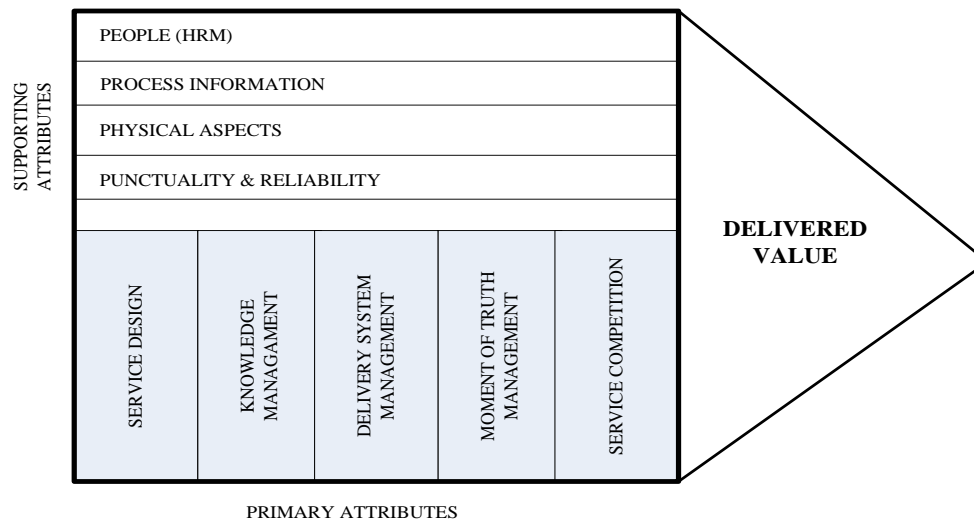


Figure 2: Value chain for services (VACSE) (Gabriel, 2005)

Gabriel suggests the following five primary attributes of VACSE:

- Service Design - crucial activity, there if poor design there will be customer dissatisfaction.
- Knowledge Management - it has two sides to it: one side is about service providers knowing the intricate needs of the customer, and the other side is about the customer being knowledgeable of the type of the service he needs and how he needs it to be delivered.
- Delivery Systems Management - the more convenient the delivery system, the better the perceived value by customers.
- Moment of Truth Management - this is the real time whereby the service provider encounters the customer. Regardless of whether customer perceptions are in reality correct or completely inaccurate, customers carry these moments of truth in their head.
- Service Competition Management - This will stimulate service providers to be innovative and never complacent.

and four supporting attributes:

- People - customers attach the value of the service to the characteristics of the service provider.
- Process Information - the service providers need to be well knowledgeable of the way the service is generated and delivered to the customers.
- Physical Aspects - the physical appearance of the tangible part of the service offered.

- Punctuality and Reliability - timing is a function of service quality in the service industry.

In the last two decades, value chains were used in different fields for the purpose mentioned, including telecommunication (Li & Whalley, 2003), wireless communication (Sabat, 2003) and health services (Lawton *et al.*, 2002). In the domain of Higher Education, England's Department of Education & Skills published an educational value chain, which focused on the value that is added to digital learning content (Towell *et al.*, 2003).

### 3. HEI value chains

Colleges and universities often have difficulty in describing higher education's traditional value chain. The most frequent confusion that can be observed is to treat the student as the “raw material” that moves along the “production line” only to emerge fully finished at the end. Colleges and universities supply knowledge to those who need it; a successful transaction between teachers and students is what we call learning.

Pathak and Pathak (Pathak and Pathak, 2010.) are suggesting the reconfiguration of a classic Porter's value chain, in order to be used in HEIs. The determination of specific value addition taking place depends on visibly discrete sets of activities. The traditional education model had little scope for such distinctions between the various activities, as it was highly governed by the intangible aspects of value creation which are neither visible nor quantifiable. The figure captures the increasing significance of support services, the emerging trend of teaching and learning (in large part independent of the physical presence, i.e. reducing level of contact), technology as an enabler as well as a creator of cost advantage and enhanced efficiency; and the formalization of marketing and sales services.

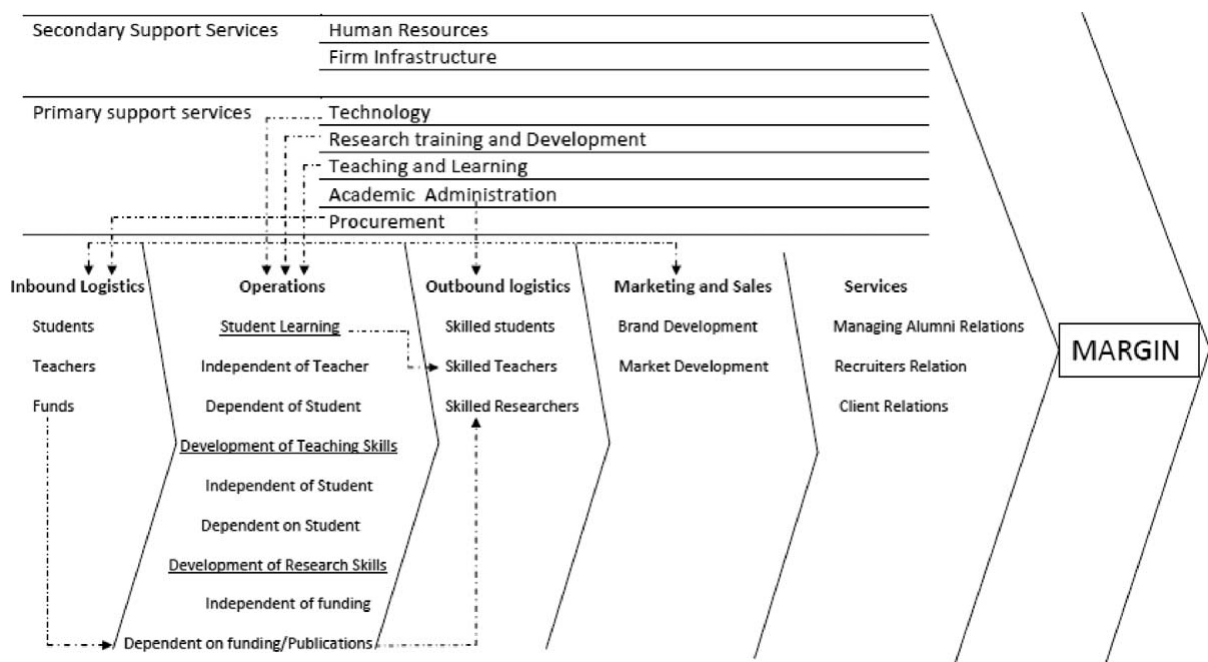


Figure 3: Higher education value chain (Pathak and Pathak, 2010)

Taking the Higher Education as a representation of the service sector, it is clear that some of the components of Porter's chain (e.g. Inbound and Outbound logistics) cannot be directly applied to the service industry. Therefore, the value chain model for the HE education sector has been developed as shown in Figure 4. The new model has also five primary attributes and four supporting attributes, analogous to VACSE (Gabriel, 2005). One can observe that the activities proposed in this value chain are not always discrete, as Porter suggests them to be. Also, it is not quite clear sub-activities are encompassed by some higher-level activities, namely Learning spirit.

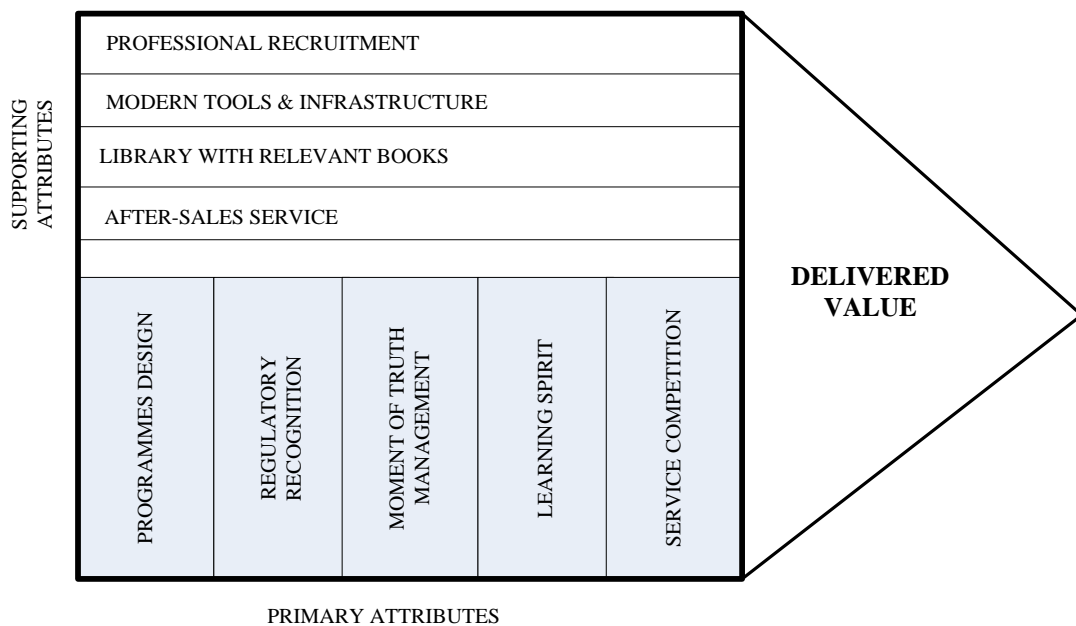


Figure 4: Value chain for higher education (Gabriel, 2005)

Activities in HEIs value chain may be clustered into three major groups, namely, pre-education (student recruitment), education (teaching and evaluation), and post-education (graduate placement and alumni support) (Sison *et al.*, 2000). It is not uncommon that two general value chains are identified in HEIs: one centered around education, and the other centered around research. These two value chain can be viewed as two different fields in which HEIs operate, as they both represent core missions of HEIs. However, they should not be observed in isolation from each other. Research value chain outputs are very important education value chain inputs, and they play a significant role in creating value, and they also shape the way that value is perceived by the end customer. Therefore, it can be very helpful to include scientific research (creating of knowledge) in educational value chain when value creation is being analyzed.

Since it is difficult to use Porter's value chain in a service field directly, and therefore it is hard to use it directly in HEIs, it is recommended that, when creating the HEI value chain, Porter principles are used as guidelines in the broadest possible sense. This means that the basic idea is to identify discrete activities that add value to the end user (as well as support

activities) rather than trying to blindly follow the structure of Porter’s value chain in terms of number and role of primary and support activities. It is useful to identify as many activities as necessary to identify all the discrete elements that are participating in the creation of value to the end user. An example of the value chain in the HEI is given in Figure 5.

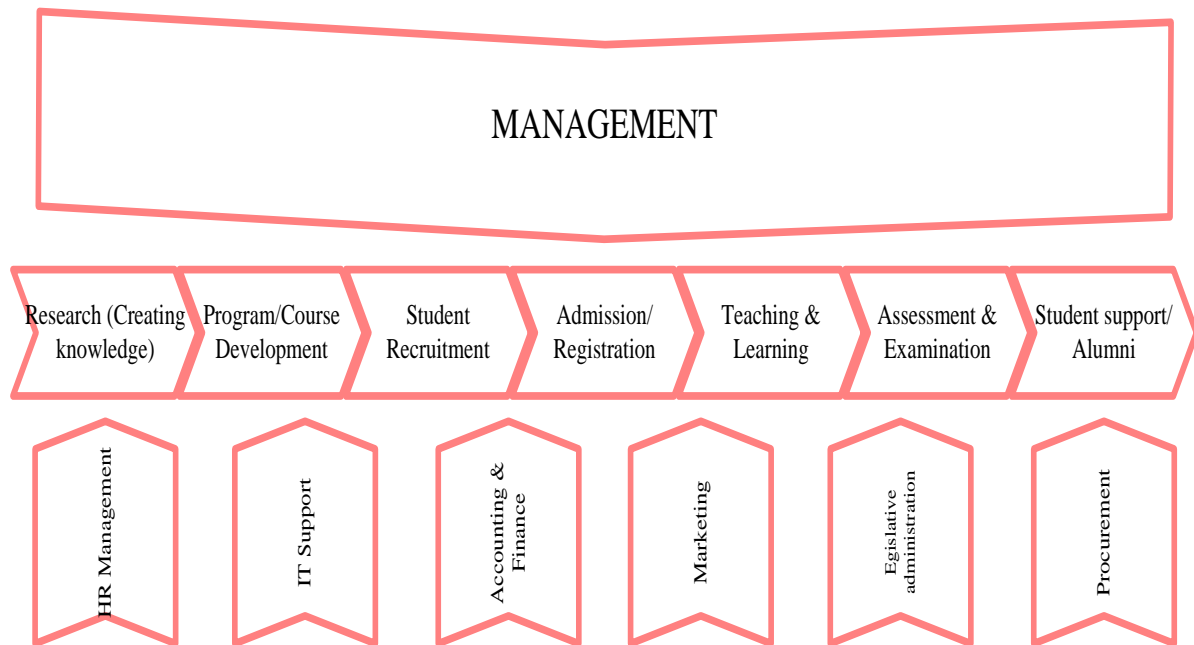


Figure 5: Value chain for higher education

The value chain consists of seven primary activities (or core processes): Research (Creating knowledge), Program/Course Development, Student Recruitment, Admission/Registration, Teaching & Learning, Assessment & Examination, and Student support/Alumni, and six supporting ones: HR Management, IT Support, Accounting & Finance, Marketing, Legislative administration, and Procurement. On top of them all are Management processes that govern primary, as well as supporting activities.

#### 4. Analyzing value at Faculty of Organizational Sciences

Increased competition in the field of business schools is the main reason that forced the Faculty of Organizational Sciences to review and analyze the way it creates value for the end user, i.e. for the students. The main goals for this review and analysis were to:

- Review strategic goals of the Faculty;
- Make sure everyone is on the same page, including faculty staff and students;
- Communicate in common language;
- Use resources more efficiently;

- Select processes that need to be re-engineered and managed;
- Introduce new information system and facilitate process automation;

In recent years, a dozen or so change projects were implemented in the Faculty, but they were rarely analyzed from the value creation point of view. Projects were carried out in isolation from each other, and they were uncoordinated. If we look at Figure 6, we can see that most of the improvement projects (represented by yellow dots) were centered around supporting activities, and only a few considered the activities that create value. Even the ones that were considering core processes were externally imposed. For example, some procedures in Program/Course Development field were done because accreditation procedure required so.

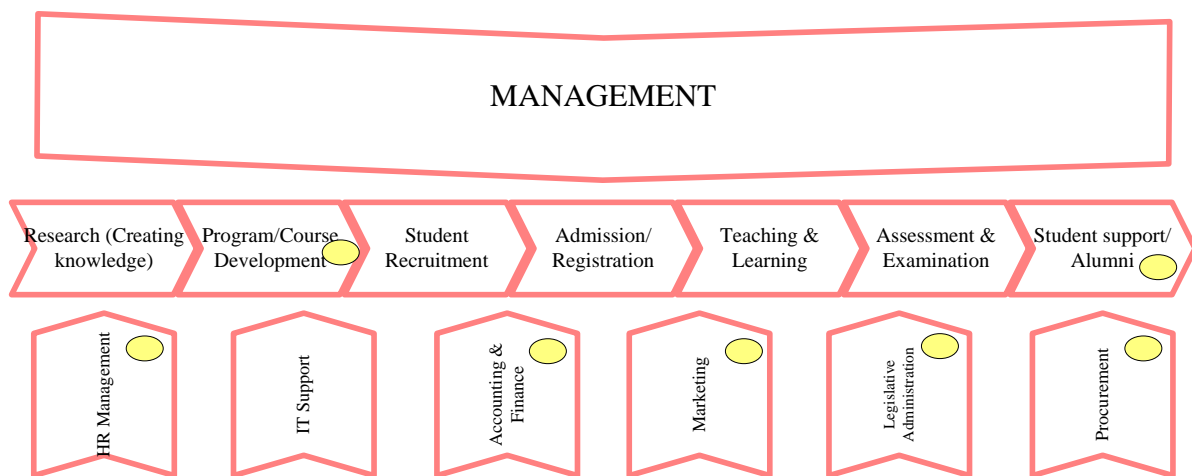


Figure 6: Change projects before value creation analysis

After analyzing the way Faculty creates value to students, it was decided that a new set of criteria for prioritizing change projects was needed. Students are now taken as the main stakeholders, and all change projects are now focused with having that in mind. After the value stream evaluation, six out of seven improvement projects are centered around core processes.

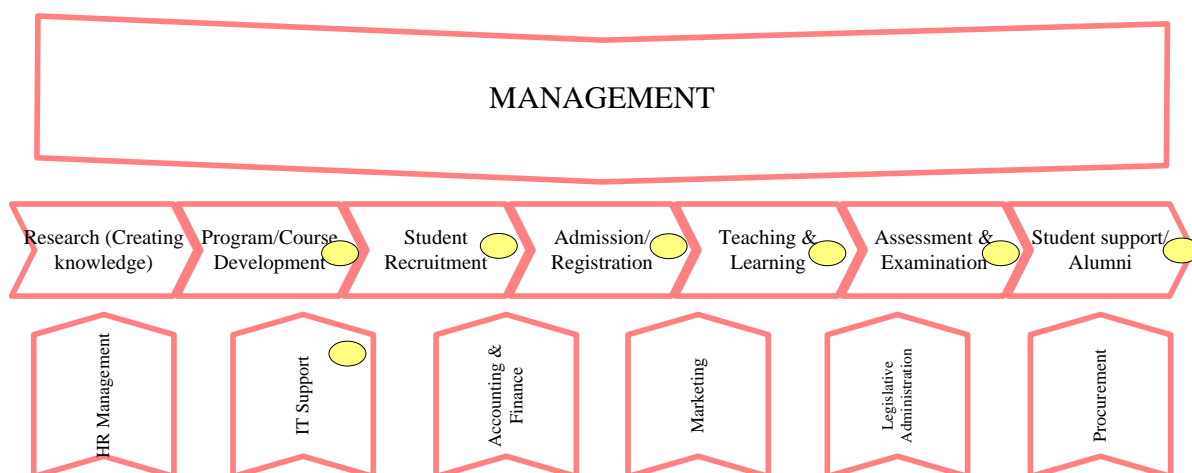


Figure 6: Change projects after value creation analysis

Significant improvements were made in Assessment & Examination field, and they are backed up with the introduction of the new information system that now encompasses almost all primary activities in the value chain, from Student Recruitment to Student support/Alumni. Administrative activities related to examination were greatly reduced by means of process automation, and the possibility of an administrative error in the examination documentation is kept to a minimum. Student recruitment and Admission/Registration were also greatly improved, with number of errors during those activities reduced to zero, and are also highly backed up by the new information system. The procedure for Program development has been updated, with greater respect for market needs for certain type of knowledge.

Unfortunately, the knowledge creation remained relatively isolated from the rest of the value chain, since research is still frequently being done without taking into account the need to develop specific types of knowledge that students need. However, the need for rethinking the way that research is conducted is recognized, and knowledge creation has a high priority to be improved within the next year.

## **5. Conclusion**

Although HEIs are rarely considered from “business” or “customer” perspective, they are not that different from other business systems. As any other business system, HEIs consist of a number of processes that are supposed to add value to end users, among which the students are the most important ones. Where there are processes, there’s a potential for them to be improved. But the real challenge is to prioritize the improvement efforts, and to make sure that those efforts are aligned with strategic goals. Analyzing HEIs from the value creation point of view can help in overcoming those challenges, and help the increase their competitiveness in the ever evolving market.

The unique characteristics of service made necessary to propound a new dimension of value chain. It is clear that the Porter’s value chain cannot do the whole thing in the value system of the service sector. However, Porter’s value chain has built a good foundation for mapping value streams in HEIs. Higher education has its own set of specificities that require thinking out of the box. Using modeling tools such as value chains to identify key processes that add value have already proved as a successful strategy in business re-engineering efforts. A value chain approach to higher education will go some way towards determining those areas of the system where bottlenecks are likely to occur, as well as providing a root to follow when determining the value that can be added by technology. Value chain analysis should help HEIs to focus on major components of a successful business: a greater focus on the customers of the organization (both internal and external), and a fundamental rethinking of the processes in the organization that will lead to improvements in the way that value is being created.

## 5. References

- Armstrong, S., Thompson, G., Brown, S. (editors). (1997). *Facing up to Radical Change in Universities and Colleges*. London: Kogan Page.
- Birnbaum, R. (1988). *How colleges work: The cybernetics of academic organizations and leadership*. San Francisco: Jossey-Bass.
- Burns, L. R., & Wharton School Colleagues, (2002). *The Health Care Value Chain: Producers, Purchasers, and Providers*. San Francisco: Jossey-Bass.
- Ford, P., Goodyear, P., Heseltine, R., Lewis, R., Darby, J., Graves, J., Sartorius, P., Harwood, D., King, T. (1996). *Managing Change in Higher Education*, Buckingham: SRHE & Open University Press
- Gabiel Elisante (2005) *An assessment of Value Co-creation and Delivery Systems in Higher Education Sector of Tanzania: A Case of CBE, TIA & IFM*, The African Journal of Finance and Management
- Hammer, M. and Champy J. (1993). *Reengineering the Corporation: a manifesto for business revolution*. London: Brealey.
- Li, F., Whalley, J., (2003). *Deconstruction of the telecommunication industry: from value chains to value networks*. Communication abstract. 26(5)
- Pathak V., Pathak K. (2010), *Reconfiguring the higher education value chain*, Management in Education, Sage publication, 24(4).
- Porter, M., (1985). *Competitive Advantage – Creating and Sustaining Superior Performance*. New York: The Free Press.
- Slowey, M. (1995). (editor). *Implementing Change from within Universities and Colleges: 10 Personal Accounts*, London: Kogan Page
- Sison, R., Pablo, Z. C, (2000). *Value Chain Framework and Support System For Higher Education*. Proceedings of the Philippine Computing Science Congress (PCSC)
- Sabat, H. K., (2003). *The evolving mobile wireless value chain and market structure*. Communication abstract. 26(5)
- Towell, P., Stewart, G., Ghose, C., (2003). *The Value Chain for Digital Learning Content in England*. The Department for Education & Skills.

The 14th Toulon - Verona Conference-TVC2011

What's In a Name?  
Quality in the Public Sector After the Great Recession

Walter Tucker, Ph.D., Professor of Quality Management, Eastern Michigan University  
walter.tucker@emich.edu

What's in a name? that which we call a rose  
By any other name would smell as sweet; Shakespeare's *Romeo and Juliet*

Introduction;

Quality tools and systems can help alleviate the acute problems facing cash strapped governments in providing services to their citizens. Issues such as efficiency/productivity, customer satisfaction, and improvement strategies can be addressed using proven quality management strategies. Definitions of what constitutes public sector quality should be re-evaluated. Western democracies, battered by the Great Recession of 2008-2009, will emerge from this difficult period with fewer resources yet their citizens' expectations for services persist unabated. Emerging democracies, especially in the Middle East, will provide unique tests of public service accountability to their newly empowered citizens. In his 2011 book, *The Origins of Political Order*, Francis Fukuyama contends that essential components of the modern political state include: "the state's subordination to the rule of law and government accountability to all citizens." Increasingly, governments must provide more for less; voters (customers) will make the governments accountable at the next election. Measurable improvements in government service, cost effectiveness, and customer satisfaction are mandatory in a period of declining revenues. Whether or not these public sector developments are referred to as "quality" initiatives is immaterial. Opportunities abound for publically-funded higher education to introduce or expand quality concepts in the public sector at the local, regional, and national level.

Development of the nation state and the wealth generated by the industrial revolution combined with the expansion of suffrage to yield the modern, western democracy by the early twentieth century. Two world wars, the Great Depression, and the effective end of European-dominated colonialism meant that, by the mid-twentieth century, most of Western Europe and North America had entered the era of expanded central governments funded by domestic tax revenues. Citizens were taxed and governments provided services. Social democracy in Western Europe and Canada as well as the latter day Rooseveltian "New Deal" in the U.S. developed with massive expansion in public health care, housing, education, health and safety/environmental legislation and a myriad of other services administered by the tax-funded public sector.

For the U.S.:

"..in the early years of the United States, the federal government spent about \$30 per person annually. By the 1910s, government expenditures per capita were about \$129, or slightly more



than four times the 1792 level. In 2004, the federal government spent \$7,100 per capita, nearly 55 times more than was spent per capita in the 1910. ..Personal income tax revenue as a percentage of all federal tax revenue increased from about 2 percent in 1913 to over 43 percent in 2004. “(Garrett, T. & Rhine, R., 2006)

The Thatcher period in the U.K. during the 1980s significantly modified the post-WWII welfare state just as, during the same period, the Reagan administrations in the U.S., modified the “Great Society” programs of Lyndon Johnson. However, neither Thatcher nor Reagan significantly reduced citizen expectations for services. After the dissolution of the Soviet Union in the early 1990s, the modern democratic state was well established in North America, Western, Central, and Eastern Europe. At the opening of the twenty-first century, extension of this model into non-European regions looked hopeful. Fukuyama (2011) explains this development in describing “Getting to Denmark” -- a country seen by students of politics as a model democracy, - a topic which will be covered in detail in his (Fukuyama’s) second volume.

However, the “Great Recession” of 2008-2009 brought a significant hiatus in the ability of governments to provide more and more services to their citizens. The very model is threatened with potential ruin by the near bankruptcies of several EU states and the first-ever reduction of the credit rating of the U.S. government. It is well beyond the purview of this study to enter in to any political discussion of the rights and wrongs of this model. The point made here is that the emphasis on efficiency and value as defined by customers has rarely been the focus of the public sector service. Moreover, public employment has been widely viewed as a sinecure for the winning party(ies) rather than a means of providing citizens what they pay for. The frequently used Keynesian argument for economic stimulus by means public employment has, at best, produced short-lived results. And large-scale public employment is not an effective long-term strategy for efficient public services. Most governments must cut spending while maintaining the highest level possible of services.

By the 1980s, most nationalized industries were disassembled by the British Thatcher governments and the government-approved monopolies of such companies as General Motors in the U.S. and Fiat in Italy were broken up by competition. The modern quality movement in the U.S. dates from the early 1980s when Japanese imports made up almost 40% of U.S. vehicle sales and Dr. Deming appeared on national television with the program: “If Japan Can, Why Can’t We?” (Hindle, 2008). Deming worked his entire life teaching the statistical tools needed for industrial competitiveness. However, U.S. vehicle manufacturers only listened when they were faced with ruin. Poignantly, the re-structured U.S. motor vehicle industry fighting for survival in 2011 is still trying to incorporate Deming’s concepts while quality/lean masters Toyota, Honda, and now Hyundai have avoided brushes with bankruptcy and continue to expand market share in the U.S. and elsewhere. Even former monopolist Fiat has adopted its version of the Toyota Production System and is returning to the U.S. with its control of Chrysler.

Starting in the 1980s, formerly monopolistic or oligopolistic manufacturers began to adopt quality concepts in response to competition. They had to make products customers wanted (the Toyota “pull” model), not what they knew how to produce (General Motors monopoly “push” model). (Hopp, W. & Spearman, M., 2001). Similarly, the public sector in western democracies

faces real challenges with declining revenues, calls for privatization, and citizens clamoring for more and better services.

#### Problems of Definition:

Quality in the public sector is also fraught with problems. The U.S. Clinton administrations in the 1990s initiated the Federal National Performance Review to “Reinvent Government” to make government both more efficient and more open to improvement. However, no institutionalized changes were incorporated in the Post-Cold War era of U.S. federal budget surpluses. The author’s involvement with a Department of Defense quality improvement project in the mid-1990s confirmed the complete lack of understanding of quality concepts prevalent in this so-called public sector quality improvement initiative. In the important study of U.S. public service quality by Holzer et al. (2009) reveal that as late as 1999 two-thirds of senior officials in municipalities had trouble measuring quality at least some of the time. The authors go on to state that something as quantifiable as tap water is not measured using any national standard. Holzer et al. (2009) defined three “emphases in the field of quality improvement: quality circles, total quality management, and citizen satisfaction.” As an active consultant in the private and public sector, the author has not observed (or used) the terms “quality circles” and “TQM” for about 20 years. The concepts of quality circles and TQM are highly valuable, but their utility in the field has waned. It is clear that the “cutting edge” in public administration quality lags significantly behind the private sector in both manufacturing and service. Still, the problems facing public sector quality are going to worsen and they must not dither on issues of semantics or their relation to advances in other sectors.

#### How We Might Define Quality (Oh No! Not Again!):

No matter what your organization’s endeavor, **what customers value** is paramount. To do this, we must learn how to define customers, internal and external, and to determine and anticipate their needs. We must have an **improvement process** in place, and this process must include everyone in the organization. Organizations regularly place their least educated and worst paid employees in direct contact with their customers. I won’t necessarily see the glitzy advertising for fast food companies, but I will interact with their employees serving up the food. The last person to touch the vehicle in the assembly plant may well be the least educated person in the organization. Who answers the phone in any organization? Improvement cannot remain the domain of professional “firefighters” and “problem solvers”. The best organizations **involve everyone** in meeting customer needs and improvement activities. Deming has stated that “goals make liars” and that **a process focus** is the best approach for improvement. Also, for an effective quality system, we need to determine if we are correctly **measuring** our organization’s performance and, if not, we must consider altering the measurement system. (adapted from Besterfield et al., 1999). Public sector quality initiatives will include some or all of these activities: (1) Determining what customers value, (2) An improvement process, (3) Broad participation in improvement, and (4) An objective measurement system.

## Problems of Jurisdiction:

Public services are delivered through overlapping and often conflicting jurisdictions of local, municipal, state/provincial, regional, and national boundaries. Every locale has jurisdiction problems with public services. Citizens are taxed on sales/VAT, property, income, and by other means. Deciding to buy a new computer or car means that we make a choice on brand/features then buy either from the manufacturer or from a retailer. For public services, the relation between what we pay as citizens and what we receive as service is usually indirect and often confusing. Establishing “government accountability to all citizens” as per Fukuyama (2011) must encompass the problems created by public sector jurisdictions.

The author is working at latitude 42 degrees 18 minutes North and longitude 82 degrees 39 minutes West in Superior Township, Washtenaw County, Michigan, USA. The area was settled by native peoples about 10,000 years ago and they used both footpaths and water transportation with land portages. When the French arrived in the 1600s they used the native transportation system to buy and ship furs to Europe as well as surveying land with boundary definitions and jurisdictional boundaries. The British ejected the French in 1763 and superimposed their jurisdictional system. In 1776, the U.S. began its struggle for independence from Great Britain but borders between the U.S. and the then British colony, Canada, were not finalized until the end of the Napoleonic Wars in 1815. Michigan was then part of the U.S. Northwest Territory with its jurisdictional system supplanted by those of statehood granted in 1837. There are remnants of each era in current jurisdictional boundaries. Every locale has a unique history affecting government jurisdiction. Current public sector jurisdictions at the author’s location were shaped by geography, local, and world history. The complexity of these superimposed jurisdictions is truly incredible as is the potential for waste.

For example, the author’s home is located in the following public sector jurisdictions: federal, state, county, and township governments; public school (kindergarten through high school, community college, and county-wide intermediate school district – all funded separately); fire, police, roads (county, state and federal), drains, mail, public library; cable/telephone/internet, natural gas, electricity, trash/recycle, (private but publically regulated monopolies), and county-wide mass transit. With few exceptions (mobile phone/internet vs. cable, some mail delivery, schools), the services/products proffered through these jurisdictions are monopolies. These services are paid via property tax, state income tax, state sales tax, federal income tax, state/federal excise tax (e.g. motor fuel, alcohol, tobacco etc.). “Government accountability to all citizens” is made immeasurably complex by this relation between payment rendered and services expected from monopoly providers and overlapping jurisdictions.

## Review of Literature:

Competition in the private sector has often forced quantum and potentially disruptive change. Henry Ford's moving assembly line reduced direct labor in auto assembly by 90%, reduced the price of an auto by 75%, and "Changed the World". Toyota's lean production model permitted autos to be engineered in half the time and manufactured products with half the labor and floor space. (Womack, J & Jones, D., 1990, 2003, 2003a). As early as 1991 there were demands to reform the U.K. public sector "to provide better quality while reducing demands on taxpayers." (Micheli et al. 2005) As this is being written in June, 2011 Greece is effectively shut down by strikes in response to demands for higher taxes and reduced public sector employment. This following similar public responses to reduced public employment in Ireland, Portugal, and Spain. It appears that public sectors in much of Western Europe and North America are facing austerity and ruin. Public sector employment as a social democratic sinecure or as a Keynesian intervention is likely to be challenged

Vast quantities of academic literature exist on public sector quality. Most has been generated with a focus on Western Europe with far less on the U.S. Perhaps this is due to research funding supplied by social democracies but not the U.S. government. The Summon meta-search program yields for "Quality and Public Administration - 875 listings and limited to the U.S., 97, AB/I Inform for the same search terms yields 184 and only 2 for the U.S. The Emerald journal database yields 14612 for Quality and Public Administration and is limited to 650 with mention of the U.S. The vast majority of these articles are small-scale studies involving a single, isolated governmental unit. Some (Fryer, K. et al., 2007) conclude that (globally) "Whilst almost every public sector organisation is involved with a quality programme, few public sector organisations appear to be reaping the benefits to the same extent as manufacturing organisations."

The American Society for Quality (ASQ) has an active "Government" section with many publications on Malcolm Baldrige Awards co-sponsored by ASQ and the U.S. Department of Commerce, military quality projects, and reports from municipalities and states. ASQ publications are, as a rule, practitioner oriented and lack the rigor of academic research (Anonymous, 2009; Campbell 2005). Other publications on public sector quality in the U.S. tout the value of the author/consultant (Kendrick, 2011). It is too early to see much rigorous academic research on public sector quality efforts in response to reduced public sector funding resulting from the "Great Recession. "Reinventing government", was a fairly unsuccessful initiative in the early 1990s which did not have the force of financial exigencies; these were years of budget surpluses in the U.S.

As early as 1991 there were demands to reform the U.K. public sector "to provide better quality while reducing demands on taxpayers." (Micheli et al., 2005) At about the same time in the U.S., there were many calls for the use of TQM in the public sector (Berman & West, 1995; Sensenbrenner, 1991; Galloway 1992; International City and County Management Association, 1993, Milakovich, 1991, 1998). The 1990s in the U.S. witnessed a burst of academic research, much with federal government funds, to improve government services. Milakovich 1998 states "persistent demands for increased government productivity have prompted the establishment of federal standards for customer service..." What happened? No clear result ensued. Interest appeared to soon wane in the U.S. and by the time Holzer (2009) wrote a review of the previous 25 years of public service quality improvement that about the only somewhat institutionalized remnant of the previous two decade of quality initiatives was citizen satisfaction surveys. And, the myriad jurisdictions were still in place with inconsistent data collection and the dearth of

standards. In North America, Holzer (2009) only finds this problem of data collection and measurement somewhat solved only in the Canadian Province of Nova Scotia. McNary (2008) documents the use of lean tools to improvement performance starting in Columbus, Georgia USA in 1998 . There were positive results 10 years later in performance and in citizen satisfaction. McNary concludes: but concludes that:

“The issue of quality remains salient. As detailed earlier, implementing Quality Management in the public sector is challenging and appears to remain so. Yet, even without a formal Quality Management program, many of its tools and techniques can be applied to various workplace issues as part of a broader strategy deployment in a public sector organization that enhances performance.”

At least in the U.S., academic and government interest seemed to wane if not disappear by the end of the second Clinton administration. The Bush first term starting in January, 2001 was soon completely consumed with the aftermath of September 11, 2001. Academic publication in quality and public administration was maintained at a low level and did not seem to link to developments in the greater, global quality movement. Also, as mentioned, it is too early to see research in quality and public administration proposed as a potential remedy for some of the turmoil in the public sector resulting from the Great Recession of 2008-2009. This study is intended to explore the possibility of such action.

#### Case Study: Washtenaw County, Michigan USA.

The state of Michigan has been in recession (declining GDP) since the late 1990s. Tax revenues have shrunk with the re-structuring of the formerly dominant U.S. auto industry, much of which was located in SE Michigan near Detroit, the “Motor City”. General Motors declared bankruptcy and was rescued by federal funding as was Chrysler Corporation now controlled by Fiat of Italy. Property values did not “burst” since there was no housing bubble but residential foreclosures have reduced tax revenue for municipalities. Public entities include the state government itself must balance their budgets each fiscal year. Michigan went from being a rich state with 105% of national U.S. per capita income in the 1990 to 88% in 2010. (Michigan State Senate, 2011) Perhaps because of the long-term economic problems some units have already begun their incorporation of quality tools in their attempt to serve their constituencies with fewer resources. What follows are a few examples of the use of “quality” language in public sector websites.

#### Washtenaw County Sheriff :

“Through service excellence and crime prevention our goal is to improve the quality of life in the County and build strong and sustainable communities. We will also be good stewards of your tax dollars by pursuing our mission in the most efficient, strategic, cost effective, fiscally responsible way possible.” (Office Of The Sheriff, 2010).

#### Ann Arbor Transit Authority:

The AATA, a not-for-profit unit of government, operates the local public transit system for the greater Ann Arbor-Ypsilanti area. AATA enables the area's residents to reach their destinations at reasonable cost, and offers the region efficient, environmentally sound transportation alternatives. In this section you will find an overview of AATA policy information, ranging from our long-term goals and objectives to information on our board of directors.

#### MISSION

It is the mission of the Ann Arbor Transportation Authority to provide useful, reliable, safe, environmentally responsible and cost-effective public transportation options for the benefit of the Greater Ann Arbor Community.

#### VISION

The Ann Arbor Transportation Authority shall be the public transportation provider for Washtenaw County. Our customers shall see AATA's expanded services as the preferred option for traveling to destinations within the county, as well as to and from the county. AATA will offer appropriate modes of transportation with the most efficient use of resources. These services shall enhance the quality of life for Washtenaw County stakeholders while promoting the economy, safeguarding the environment, and strengthening communities.

#### VALUES

The core priorities guiding the Ann Arbor Transportation Authority's conduct toward its customers, stakeholders, employees and the entire Greater Ann Arbor Community are embodied in the following values:

**SAFETY** from harm, injury, or loss.

**RELIABILITY** based upon consistent performance over time.

**CUSTOMER SERVICE & SATISFACTION** due to providing the highest level of service.

**RESPECT** resulting from attentiveness, consideration, and courtesy.

**INCLUSIVENESS** without discrimination.

**COOPERATION** toward the common good.

**RESPONSIBILITY** by being accountable for both actions and conduct.

**INNOVATION** aimed at improving efficiency and effectiveness.

**FLEXIBILITY** to adapt to new, different, or changing conditions.

**INTEGRITY** from incorporating principles of right and wrong into principles of moral behavior.

**ENVIRONMENTALISM** centered on a concern for the conservation and improvement of the environment. (AATA, 2011)

#### Superior Township:

A committee of Superior Township residents has been established to help foster pride, unity and a sense of place among Superior Township residents.

The goal is simple. We want to promote the township by getting the word out to residents (current and future) about all of the wonderful things that make up the township - the deep rooted

history, the wonderful scenic features, the diversity of our residents - and how it all comes together to create “One Superior Place.”

We invite you to get involved! Residents interested in participating are encouraged to get involved by coming to the meetings and sharing their ideas and suggestions. Even those that have ideas, but are unable to attend the meetings are encouraged to get involved by submitting their ideas to the group. (Superior Township, 2011)

Ann Arbor District Library:

Values

- Excellence in customer service
- Providing, supporting, and advocating access for all
- Acting with initiative, creativity, and flexibility
- Working together, with enthusiasm and optimism, to reach goals
- Responsible stewardship of resources
- Transparent statistics/data (Ann Arbor Public Library, 2011)

Eastern Michigan University:

At Eastern Michigan University (EMU), the Center for Quality is a non-credit arm of the university engaged in training for business and industry and has earned an ISO 9000 Certification. As part of the accreditation process EMU must engage in continuous improvement through the Academic Quality Improvement Program (AQIP). Graduate students enrolled in the Master of Science of Quality Management (MSQM) routinely engage in research in the public sector including the use of QFD for planning, lean initiatives for process improvement, and customer satisfaction surveys. Based on customer feedback from students and employers, the MSQM program at EMU created more service sector class options for students starting in 2005. Since 2001, the MSQM has been fully online permitting student to “pull” their graduate classes from any location with internet connectivity.

Locally, there are significant but unlinked and unsystematic quality initiatives in the public sector. The author suspects that this is true in most areas. There are few apparent links between local public sector improvement/accountability/efficiency initiatives and the greater quality movement. There may be great opportunity, perhaps originating in a public university, to connect and even “network/synergize” these efforts, especially in a time of economic crisis.

Conclusion

The emphasis on efficiency and value as defined by customers will increase in public sector service whether or not the public sector uses formal “quality” terminology. The quality movement and lean production re-vitalized manufacturing to face the fierce threat of competition. Such efforts can also help the public sector improve, do more with less, and satisfy customers. The link between research in public administration and research in quality has the potential to expand. Academic publication relation to public sector quality in Western Europe and elsewhere continued to grow with the expansion of the EU and interest in quality expanding

beyond Europe. Fukuyama's (2011) "Getting to Denmark" presages development for governments accountable to their citizens even outside of Europe and North America. There is some evidence that a renewal of quality initiatives in the public sector will emerge over the next several years and provide opportunities for academic researchers to contribute in a substantial way. Specifically, state-supported universities are positioned to help.



## References:

- AATA , 2011. <http://www.theride.org/about.asp>. Retrieved 6-20-2011.
- Ann Arbor Public Library, 2011. <http://www.aadl.org/aboutus>. Retrieved 6-20-2011.
- Anonymous, 2009. Another View of Quality in Government. *The Journal for Quality and Participation*; Oct 2009; 32, 3; pg. 16.
- Berman, E., and West, J.,1995. Municipal Commitment to Total Quality Management: A Survey of Recent progress. *Public Administration Review*; January 1995; 55, 1; p.. 57.
- Campbell, M., 2005. Bringing Performance Excellence to the Public Sector: Washington State's Odyssey. *ASQ World Conference on Quality and Improvement Proceedings*; 2005; 59, pg. 279.
- Fryer, K., Antony, J., & Douglas, A., 2007. Critical success Factors of Continuous Improvement in the Public Sector: A Literature Review and Some Key Findings. *The TQM Magazine*, 19(5), 497-517.
- Besterfield, C., Besterfield, D., Besterfield, G., & Besterfield, M.,1999. *Total quality management*. (3rd edition).Prentice Hall.
- Fukuyama, F., (2011). *The origins of political order*. Strauss, Farrar, Giroux. New York.
- Galloway, R.,1992. Quality Improvement and Heightened Self-Esteem *National Productivity Review* Vol. 11 (Autumn). Pp 453-461.
- Garrett, T. & Rhine, R., 2006. On the Size and Growth of Government. *Federal Reserve Bank of St. Louis Review*, January/February 2006, 88(1), pp. 13-30.
- Hindle, T., 2008. *The Economist Guide to Management Ideas and Gurus*. Profile Books.
- Holzer, M., Charbonneau, E., Kim, Y., 2009. Mapping the terrain of public service quality improvement: twenty-five years of trends and practices in the United States. *International Review of Administrative Sciences*. London: September. Vol. 75, Iss. 3; pg. 403.
- Hopp, W. & Spearman, M., 2001. *Factory Physics: Foundations of Manufacturing Management*, Irwin/McGraw-Hill.
- International City and County Management Association, 1993. State of the Profession Survey, *ICMA Newsletter* vol. 74 (July).
- Kendrick, K., 2011. Keys to Successful Performance Measurement. *Public Manager*. Potomac: Spring 2011. Vol. 40, Iss. 1; pg. 62.

Michigan State Senate: U.S. and Michigan Per Capita Personal Income 1970-2010.  
(<http://www.senate.michigan.gov/sfa/Economics/US&MichiganPerCapitaPersonalIncome.PDF>).  
Retrieved 6-20-2011

McNary, L., 2008. Quality Management in the Public Sector: Applying Lean Concepts to Customer Service in a consolidated Government Office. *Public Administration Quarterly* Summer.

Micheli, P., Mason, S., Kennerly, M. Wilcox, M., 2005. Public sector performance: efficiency or quality? *Measuring Business Excellence*; 9, 2; pg. 68.

Milakovich, M., 1998. Public Sector: the State of Results-Driven Customer Service Quality. *National Productivity Review* .Spring.. 17, 2; pg. 47.

Milakovich, M. ,1991. Total Quality Management in the Public Sector. *National productivity Review*, Vol. 10. Spring., Issue 2, pages 195–213.

Sensenbrenner, J., 1991. Quality Comes to City hall. *Harvard Business Review*, Vol. 69 .March-April) pp. 64-75.

Superior Township, 2011. [http://superior-twp.org/one\\_superior\\_place/index\\_html](http://superior-twp.org/one_superior_place/index_html)

Washtenaw County Office Of The Sheriff, 2010. *Washtenaw County Sheriff Community Report 2010*. WashtenawSheriff.org. Retrieved 6-20-2011

Womack, J. & Jones, D. 2003. *Lean Thinking*. New York, New York: Simon & Schuster.

Womack, J. & Jones, D. 2003a. *Lean Solutions*. New York, New York: Free Press.

Womack, J. & Jones, D., Roos, D. 1990. *The Machine that changed the World*. New York, New York: Macmillan publishing Company.

# ELDERLY AND HEALTH CARE SERVICES: THE ELEMENTS CHARACTERIZING THE PATIENT SATISFACTION

**Alessandra Tzannis**

Università Cattolica del Sacro Cuore Milano  
S.E.GEST.A. - Economic and Business Management Sciences  
[alessandra.tzannis@unicatt.it](mailto:alessandra.tzannis@unicatt.it)

**Giancarlo Nadin**

Università Cattolica del Sacro Cuore Milano  
S.E.GEST.A. - Economic and Business Management Sciences  
[giancarlo.nadin@unicatt.it](mailto:giancarlo.nadin@unicatt.it)

## **Introduction**

The search for quality has always been a strategic component for firms pertaining to different contexts to succeed and survive in growing competitive environments (Athanasopoulos, Gounaris, Stathakopoulos, 2001). The service industry is not an exception (Phillips et al., 1983; Reichheld, Sasser, 1990). This is why a number of research has been developed on the subject, mainly revealing a triple focus: the first one concentrates on the definition and identification of the dimensions of service quality, as indicator of performance of an organization; the second one pertains to the development of measuring instruments of service quality and the third one analyses the domain of customer satisfaction and its link to the previous focus.

The purpose of this paper is thus to identify which elements characterise patients satisfaction and how these elements are influenced by hard (medical competencies, tangibles, etc.) or soft (relational, empathy, etc.) factors. The context of analysis is the Italian health care services, in particular hospitalization ones. The explorative research concentrates on elderly patients that, due to the ageing population phenomenon, can be considered key player strongly influencing the evolution of the National Health System. Furthermore a lack of empirical investigation emerges.

Customer satisfaction, in fact, is an overall customer attitude towards a service provider (Bitner, Hubbert, 1994; Levesque, McDougall, 1996; Wong, 2000) or an emotional reaction to the difference between what customers expect and what they receive (Zineldin, 2000; Johansson, Oléni, Fridlund, 2002). When customers are satisfied with the service quality they are more likely to return, when dissatisfied customers are more likely to go elsewhere (Heskett et al., 1994; Zairi, 2000; Strauss et al., 2001).

Researchers continue to debate the determinants of service quality, but important issues seems to remain unanswered e.g., (a) the universality of service quality determinants across a section of services; (b) the importance and nature of operating characteristics of determinants as they together constitute the service quality; (c) whether the service characteristic gets reflected in what customers expect out of delivery of a particular service (Chowdhary, Prakash 2007; Pal, Choudhury 2009; Pisnik Korda, Snoj, 2010).

The present paper fits into this lines of research and in particular focuses its attention in a specific context of services, the healthcare services, in which recent transformations in the policies of the health system (crisis of the welfare state, administrative decentralization, corporatization, ageing population management, etc...) modified the traditional relationships between health services and customers (patients). The supply of health services, in fact, is now increasingly constrained by the patients' needs and their related opinion on satisfaction.

In this sense, especially in this context characterized by information asymmetry, health system priorities become quality, efficiency, care suitability and customised medical supply.

As methodology, after a review of the literature pertaining aspects such as quality and customer satisfaction, a structured equation modelling has been applied. As a result of a revised structured questionnaire - designed to assess satisfaction items and its antecedents on a 1 to 7 Likert scale -

454 cases resulted eligible to be submitted to the statistical analysis. This method, in fact, allowed us to study simultaneously the structure of the interconnections between observed explanatory variables, latent factors (summary of individual aspects of assessment) and overall degree of patients satisfaction (Jöreskog, Sörbom, 1982).

### **Literature review**

The issue of service quality has received considerable attention in the marketing literature (Olshavsky, Miller, 1972; Hostage, 1975; Brown, Swartz, 1989; Carman, 1990; Teas, 1993; Gronroos, 2001; Kang, James, 2004; Seth, Deshmukh, Vrat, 2005). Past research has linked service quality to a firm's performance (Zeithaml, Parasuraman, Berry, 1993; Boulding et al., 1993), customer satisfaction (Cronin, Taylor, 1992; Oliver, 1994; Taylor, Baker, 1994) and purchase intention (Zeithaml, Parasuraman, Berry, 1993; Lee, Lee, Yoo, 2000).

The history and the evolution of the concept of quality sees a series of theoretical approaches that can be underlined considering quality as:

- efforts to be pursued so that the organizational processes can be set in a perspective of quality, such as product and service improvements aimed at achieving a competitive advantage, leading change, creating trust and long lasting relationships, rationalizing costs, and developing a teamwork attitude (Deming, 1982; Mutter et al. 2011);
- the natural desire most employees have to do a good job, the “zero defects attitude” for which quality means to answer to a set of requirements that are the description of what the customer needs. The focus of the commitment to quality is more and more the individual participating to the process improvement (Crosby, 1979; Butt, Cyril de Run, 2010);
- Total Quality Control that is an effective system to integrate the quality development, its maintenance and the efforts to improve the organization in order to allow marketing strategies, design, production and services the cheapest levels to grant customer satisfaction. The philosophy behind this idea is that the determination of product/service quality levels is to be determined mainly by the customer, instead of considering the design requirements, the marketing strategies or the manager's objectives (Feigenbaum, 2002; Nwabuezea, 2011);
- a process-oriented way of thinking able to develop strategies that ensure continuous improvement through the involvement of people at all levels of the organizational hierarchy. The assumptions of such a way of looking at quality relate to the constant effort to improve relations, special attention to training and education, the building of informal leadership within the workforce, the development of improvement activities in small groups, training for supervisors making them able to more easily communicate and have relationships with employees, the encouragement of social life at work and discipline (in terms of procedures to follow) in the workplace (Imai, 1986; Iannettoni et al., 2011).
- not only as needs satisfaction, as a service for a specific need, but quality as a mean to satisfy the customer's expectations in accordance with the suitable characteristics, considering quality as “suitability” and “standards compliance” (Juran, 1995; Yasin et al., 2011);
- service quality as a construct delineating two facets: a technical dimension (the core service provided) and a functional dimension (how the service is provided) (Gronroos, 1984; Choi et al., 2002; Kang, James, 2004).

Regarding the link between the concept of quality and the concept of customer satisfaction one, five emerge as the major debates in the service quality area.

The first one concerns the similarities and differences between the constructs of service quality and satisfaction (Anderson, Sullivan, 1993; Bolton, Drew, 1991; Cronin, Taylor, 1992; Oliver, 1993; Parasuraman, Zeithaml, Berry 1985; Taylor, 1993; Zeithaml et al., 1993). It appears that satisfaction refers to the outcome of service transactions and overall service encounter, whereas service quality is the customer's overall impression of the relative inferiority/superiority of the organization and its services (Bitner, Hubbert, 1994).

The second one is about the efficacy of the expectation-perception gap view of service quality, (Grönroos, 1984; 1990; Haywood-Farmer, Nollet, 1991; Parasuraman et al., 1994). In this debate emerges strong empirical evidence that service quality should be measured using performance-based measures in order to reach customer satisfaction (Babakus, Boller, 1992; Cronin, Taylor, 1994).

A third debate is concerned with the development of models that help to understand how the perception gap arises and how managers can minimize/manage its effect (Brogowicz et al., 1990; Grönroos, 1990; Gummesson, Grönroos, 1987; Parasuraman et al., 1985).

A fourth debate concerns the definition and use of the zone of tolerance (Berry, Parasuraman, 1991) as this kind of range of service performance that a customer considers satisfactory in which may accept variation in performance, having a marginal effect on perceptions (Strandvik, 1994; Johnston, 1995; Liljander, Strandvik, 1993)

A fifth debate concerns the identification of the determinants of service quality necessary in order to be able to specify, measure, control and improve customer perceived service quality or customer satisfaction (Powpaka, 1987; Sitzia, Wood, 1997; Sureshchandar, Rajendran, Anantharaman, 2002; Kang, James, 2004).

Consumer satisfaction is usually related to prior expectations and conceptualized as an evaluation that the experience was at least as good as it was supposed to be (Hunt 1977; Murfin et al., 1995). When the actual performance of a product or service is perceived to exceed or fall short of previous expectations, feelings of satisfaction or dissatisfaction result; when the actual performance confirms expectations, consumers are likely to form strong feelings of satisfaction (Oliver 1980; Woodruff et al. 1983). The expectancy-disconfirmation concept (Nicosia 1966; Engel et al. 1968; Howard, Sheth 1969; Reynoso, 2010), post-purchase evaluation (Haverila, Bateman, Naumann, 2011), equity theory (Fisk, Young 1985; Cadotte et al. 1987; Yang, Liu, Leong, 2011), attribution theory (Folkes 1984; Hu et al, 2010) and experiential-based affective feelings (Westbrook 1987; Bigné, Mattila, Andreu, 2008) can be mentioned as some of the approaches developed in an attempt to explain the formation of consumer satisfaction/dissatisfaction.

### **The concept of quality in healthcare and the patient satisfaction**

“Care cannot be of high quality unless the patient is satisfied” (Vuori, 1987). For health services mortality, morbidity and patient satisfaction has been identified as the key criteria for the evaluation of overall quality of care (Hinshaw, 1992). Furthermore patient satisfaction has been considered as one aspect of the measurement of outcome care (Kenagy, Berwick, Shore, 1999; Turner, 1995; Campbell, Roland, Buetow, 2000). “Customer satisfaction is no longer simply the nice or right thing to do. It is the only good business choice in today's highly competitive environment” (Steiber, Krowinski, 1990).

Already in the 80's Ware e Pascoe stressed that patient satisfaction can be seen both as a dependent variable of quality of care as well as a predictor of subsequent health related behaviour, suggesting that satisfied and dissatisfied health care consumers behave differently (Ware et al. 1978; Pascoe, 1983; Ware, Davies, 1983). Satisfied patient are loyal, may lead to increase revenue, market share, profitability and, very likely, better clinical outcome (Steiber, Krowinski, 1990; Donabedian, 1990; Greeneich, 1993). Several past studies already document that patient satisfaction with nursing is the most important predictor of patients' overall satisfaction with the quality of their hospital care (Carey, Posavac, 1982; Cassarreal, Mills, Plant, 1986; Abramowitz et al., 1987; Brice, 1994).

Even if patient satisfaction is the most commonly measured outcome of patient care, at the level of definition there is no consensus regarding what the concept encompasses (Mahon, 1996). However, most researchers agree that patient satisfaction is a multidimensional concept (Sitzia, Wood, 1997; Alhashem, Alquraini, Chowdhury, 2011), directly related to the concept of quality (Bowers et al., 1994; Andaleeb, 2001; Pauly, 2004) that is inversely related to expectations (Ross et al., 1987; Thompson, Sunol, 1995; Sohail, 2003), that is a comparative and subjective process involving both a cognitive evaluation and an effective response to the structure, process, and outcome of services.

As a subjective assessment of the quality of health care, satisfaction represents a complex mixture of perceived need, expectations of care, and the experience of care and properties of the situation (Wilkin et al., 1992).

Considering that the literature does not discriminate among the terms patient, client, or customer, as they relate to satisfaction, the three terms can then be used interchangeably, suggesting patient satisfaction as a logical derivative of customer relations (Mahon, 1996). According to this, the previous review about theories, determinants of service quality, models (for a review see Seth, Deshmukh, Vrat, 2005) and the measures of customer satisfaction, can be considered also suitable for the health care services.

### **Objectives**

Built on the research areas coming from the literature review previously presented and on researches on health care quality and patient satisfaction measurements, objective of this explorative research is to go more in depth with the service quality determinants that are important to patients (in particular the elderly ones), examining the links of this determinants to satisfaction in the context of the Italian health care services (in particular hospitalization services).

Like previous researches the model here adopted means to determine criteria on which hospital service quality should be assessed by Italian elderly patients. The identification of such criteria and their impact on satisfaction rely upon validated theoretical models for the health care context: the technical or functional distinction of a service quality (Gronröos, 1984; Lassar et al., 2000; Andaleeb, 2001) a process related approach (expectations-perception, interpersonal relationships, etc.) (Mahon, 1996; Romagnosi et al., 2000; Rosen et al., 2003) and in particular the SERVQUAL model (Babakus, Mangold, 1992; Zeithaml, Bitner, 2000; Johansson et al. 2002; Sohail, 2003).

### **Methodology**

Starting from a literature review for the collection of the relevant variables linked to the research objective (Literature review and The concept of quality in healthcare and the patient satisfaction), a brain storming and focus group approach has been adopted for the questionnaire transposition and adaptation to the specific health care context (Preliminary evaluation). The resulting questionnaire has been pretested and a data collection phase started. The data analysis has been made through Structural Equation Modelling (Research development and results).

### **Preliminary evaluation and pre-test**

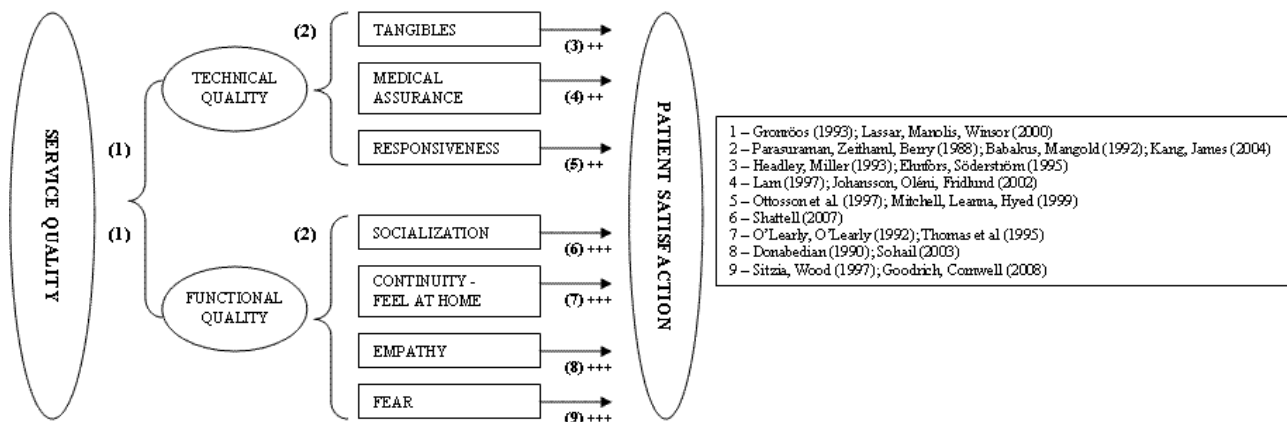
The investigations upon the SERVQUAL model suggest that specific adaptations may be necessary for testing it in specific medical care setting (Babakus, Mangold, 1992; Headley, Miller, 1993; Ladhari, 2009). Therefore an initial evaluation of the SERVQUAL was undertaken before the data collection effort began, to ensure that the model was tailored to the research needs characteristics of the Italian hospital context. Decisions to modify the instrument were based on the relevancy of the questions to health care services and on the ability of patients to respond to the questions without experiencing confusion. Inputs were provided by brain-storming sessions and focus group interviews. The size of the sample was 15 and all participants resided in the Lombardy Region. The focus group consisted of students, employees, elderly, physicians and nurses.

Decisions were taken to discard some of the items that resulted not relevant for the Italian hospitalization services and to adapt or add others. The resulting scale was then tested on a small sample of patients to gather further inputs. From the original 22-item scale (Parasuraman, Zeithaml, Berry, 1985) the 15-item scale adapted to the health setting by Babakus and Mangold (1992) was taken as starting point to build our questionnaire. The results was a set structured in: 18 general items about antecedents, 3 items about satisfaction (overall satisfaction level, level of satisfaction related to expectations, positive word of mouth), and 5 items about patient profile (age, sex, level of school degree, kind of hospitalization, length of hospitalization).

## Research model and hypothesis

From the literature review the following research model emerges as synthesis of the different constructs under analysis (Fig. 1).

Figure 1 – The Research Model



According to SERVQUAL model, patient satisfaction is positively influenced by service quality. The model distinguishes two quality elements: the technical one and the functional one. Here we posit that technical quality is composed by three elements and functional quality is composed by four different elements as depicted in figure 1. According to this reconstruction, three hypotheses are defined and will later be tested.

As perceived service quality influences customer satisfaction (Lee, Lee, Yoo, 2000).

- *Hp1* – All the seven variables have a positive impact on satisfaction  
 That is to say as a logical consequence that technical service quality will positively influence customer satisfaction and that also functional service quality will positively influence customer satisfaction

According to the SERVQUAL model, determinants of customer satisfaction can be divided in two constructs, technical and functional service quality elements (Lassar, Manolis, Winsor, 2000). Technical elements are concerned with the core service; functional elements are concerned with peripheral services

- *Hp2* – Variables pertaining to the technical construct weigh less than variables pertaining to the functional construct as a determinant of customer satisfaction.

Furthermore, out of our opinion, it is also pivotal to take into consideration the patient’s care pathway in order to correctly assess the effect of functional and technical quality on patient satisfaction. Here we define care pathway as the process by which the patient is taken in charge during hospitalization. Basically we identify four pathways according to the length of hospitalization (day-hospital or long stay) and to the clinical condition (emergency or planned).

We posit that to the different care pathways a different weight is attributed to the factors (seven variables) in measuring patient satisfaction. Considering planned vs emergency situations and long stays vs one day stays, the following hypothesis can be formulated:

- *Hp3a* – In emergency hospitalizations technical quality elements weigh more than functional quality elements.
- *Hp3b* – In emergency day hospital technical quality elements weigh more than functional quality elements.
- *Hp3c* – In planned hospitalizations functional quality elements weigh more than technical quality elements.
- *Hp3d* – In planned day hospital functional quality elements weigh more than technical quality elements.

## Research development and results

### Sample

The sample consisted of 454 personal interviews made outside four of the main generalists hospitals in Milan. The selection of respondents was spread across the entire day based on the out-flow after patient discharge. The sample identification is therefore subjective to the interviewer. The only constraint was a personal quota established on the base of sex, age of the respondent and kind of health service (male/female + elderly patients that is >60 years old + emergency/planned hospitalization that can be further distinguished in emergency day hospital/hospitalization and planned day hospital/hospitalization). Interviews occurred for five weeks from September 2010 to December 2010. The non-response rate was negligible, thanks to the total anonymity of interviews and to the limited time required.

Regarding the personal profiles of the participants, here are some demographics:

*Figure 2 – Sample Characteristics*

<b>Number</b>		<b>454</b>
<b>Sex</b>		
	Male	58% (263)
	Female	42% (191)
<b>Age</b>		
	Mean	66 years old
<b>Education</b>		
	Lower secondary school	17% (77)
	Upper secondary school	58% (264)
	University	25% (113)
<b>Care pathways</b>		
	Day Hospital	<b>62% (279)</b>
	• Emergency Day Hospital	51% (140)
	• Planned Day Hospital	49% (139)
	Hospitalization	<b>38 % (175)</b>
	• Emergency Hospitalization	48% (84)
	• Planned Hospitalization	52% (91)

#### *Questionnaire and interview*

The list of key variables developed upon the structure of figure 1 (the research model) is reported in figure 5. All the variables were measured by a seven-point Likert-type scale, with 1 meaning ‘strongly disagree’ and 7 ‘strongly agree’. The interviews were administered personally by one interviewer in each hospital. The questions were read in rotated order to reduce bias. The mean length of interviews was about 10 min.

#### *Measure validation*

Fitting the data to the formulated hypothesis has been done by Structural Equation Modelling (SEM) (Bollen, 1990) to understand the relations among the variables and define a construct able to detect patient satisfaction and its major antecedents. The SEM process is centered around two steps: validating the measurement model and fitting the structural model. An explorative factor analysis has been used to identify the main stream of antecedents (in the model called latent variable) among the 18 observed variable identified in the questionnaire. The model (the predicted path occurring linking antecedents to satisfaction measurement) is then tested in terms of ‘model fit’, which measures the extent to which the covariances predicted by the model correspond to the observed covariances in the data set. We ran this process by the Analysis of Moment Structures (AMOS), one of the three most popular statistical packages for doing SEM (Kline, 1998).

#### *Validation of the measurement model*

The questionnaire we ran during the interviews is composed of 21 items (18 antecedents + 3 satisfaction) plus the 5 questions about patient profile. To build a generalized construct of the antecedents of patient’s satisfaction portrait, we decided to select all the identified items explaining the hospital care satisfaction features, notwithstanding any emerging latent variable could suffer



weak reliable. After the exploratory factor analysis ran on the 18 items we identified 7 basic constructs as reported in figure 3.

Figure 3 – The exploratory factor score on the 18 basic items

		EXPLORATORY FACTOR ANALYSIS							FACTOR LABEL
		F1	F2	F3	F4	F5	F6	F7	
A4	Single bed room	<b>0,75</b>	-0,05	0,00	0,06	0,05	0,08	0,08	TANGIBLES
A3	Up-to-date devices and equipment	<b>0,68</b>	-0,01	-0,07	0,13	0,14	-0,20	0,09	
A5	Visually appealing room	<b>0,63</b>	0,31	0,12	-0,08	-0,07	0,07	-0,11	
A6	Clean room, premises and environment	<b>0,48</b>	-0,06	0,39	-0,13	0,12	0,28	-0,36	
A8	Relation centered on a limited number of professional staff	0,44	0,19	0,28	-0,12	0,34	0,15	<b>0,35</b>	MEDICAL ASSURANCE
A12	Second opinion	0,13	0,07	0,11	0,16	0,13	-0,01	<b>0,61</b>	SOCIALIZATION
A10	Chance and places to socialize	-0,08	0,03	<b>0,75</b>	0,17	0,05	-0,08	-0,12	
A7	Share the room with patients having the same pathology	0,34	0,08	<b>0,51</b>	0,06	0,15	-0,40	0,27	
A9	Maintain hobbies and personal interests	0,19	0,22	<b>0,66</b>	0,02	-0,06	0,11	0,25	RESPONSIVENESS
A18	Exhaustive answers to questions and requests	-0,02	0,18	0,11	0,07	<b>0,79</b>	0,01	-0,16	
A1	Exhaustive information about illness, diagnoses and therapy	0,19	0,04	-0,03	-0,02	<b>0,69</b>	0,04	0,20	FEEL AT HOME
A16	Food adequate to diseases but satisfactory at the same time	-0,06	<b>0,80</b>	0,10	0,07	0,11	0,10	0,04	
A15	Flexible visiting hours	0,17	<b>0,39</b>	0,11	0,15	0,21	-0,08	-0,58	
A17	Meals at convenient times	0,16	<b>0,86</b>	0,04	0,06	0,10	-0,03	-0,03	EMPATHY
A11	Professional staff properly guide the therapy path	-0,13	-0,08	0,44	0,14	0,26	<b>0,56</b>	-0,06	
A2	Chance to have psychological counseling	0,12	0,12	-0,11	0,10	-0,01	<b>0,83</b>	0,09	FEAR
A14	Family member's hospitality in the patient's room or in proximity	0,06	0,08	0,06	<b>0,86</b>	0,03	0,16	-0,07	
A13	Welcome services to reduce uneasiness	0,01	0,05	0,13	<b>0,83</b>	0,01	-0,01	0,16	

The first 7 components explain 64% of the variance existing in the data set as shown in figure 4. Adding one or two more components would have increased the cumulative explained variance but with a minor attitude to identify effective antecedent constructs, therefore we decided to concentrate the analysis on them.

Figure 4 – Identification of the number of components

Components	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2,16	12,03	12,03
2	1,18	10,04	22,06
3	1,78	9,87	31,93
4	1,61	8,95	40,88
5	1,44	8,01	48,89
6	1,38	7,68	56,57
7	1,25	6,93	63,50
8	0,93	5,15	68,65
9	0,77	4,30	72,95

Looking at the score of each component crossed by the 18 items, it is undoubted that there is a main and quasi-unambiguous relation between items and components as shown in figure 3. The main score is always higher in the colored rectangle which links components and items. For instance factor F1 is mainly related to A3, A4, A5 and A6. This means that the vertical score of the other items in the column F1 is lower and that the score of the four items related to F1 is as well higher than the score emerging in the other factors (F2, F3, etc.) for these selected items. This high correlation is still confirmed also for the other factors with a unique exception for item A8 related subjectively to F7, notwithstanding the highest score occurred in relation to F1. We prefer to relate this item to F7 since it sounds better in terms of face validity therefore as regards its meaning.

The factor analysis allowed to reduce the 18 questions in a more synthetic ensemble of 7 attributes.

- The first one - “Tangibles” – a technical quality factor (hard) - relates to the physical elements characterizing the hospital, the brightness, sounds, smells, colors and organizations of the bedrooms and spaces, comfort and aesthetics of the premises, cleanness of the different environments, the equipments and their update level (Headley, Miller, 1993; Ehnfors, Söderström, 1995).

- The second one – “Medical assurance” – a technical quality factor (hard) - relates to the professional skills of the physicians and nurses, technically correct work, the knowledge possessed, the second opinion orientation, the ability to communicate safely, the team attitude, a 360° view of the diseases, adequate pain relief (Lam, 1997; Johansson, Oléni, Fridlund, 2002).
- The third one – “Socialisation” – a functional quality factor (soft) - relates to the possibility to have spaces and moments to socialize with own family or other patients, to share the room with patients following the same paths, to avoid boredom discomforts (Shattell, 2007).
- The fourth one – “Responsiveness” – a technical quality factor (hard) - relates to the ability of staffs to tell patients when and how the service will be provided, exhaustiveness of answers and information about treatments, steps to follow and therapies, prompt services, clear and straightforward explanations so that the patient could understand what they were talking about and being part of the decisional process (Ottosson et al, 1997; Mitchell, Leanna, Hyed, 1999).
- The fifth one – “Feel at home” – a functional quality factor (soft) – relates to the possibility to maintain personal hobbies and interests also inside the hospital, to maintain continuity coherent with the quality of life outside the hospital, to have an open minded organization in terms of visiting hours and times of meals, to feel comfortable (O’Learly, O’Learly, 1992, Thomas et al., 1995).
- The sixth one – “Empathy” – a functional quality factor (soft) – relates to the personal attention given by nurses and physicians to patients, to have the patients’ best interest at heart, the participation of the staff to the therapy paths, the possibility to have a psychological support, and interpersonal and customized experience (Donabedian, 1990; Sohail, 2003).
- The seventh one – “Fear” - a functional quality factor (soft) – relates to the closeness of family during the experience, the presence of elements avoiding the uneasiness of the patient, to see the person in the patient with his weaknesses and fears towards the hospitalization process (Sitzia, Wood, 1997; Goodrich, Cornwell, 2008).

As regards the assessment of the validity of the antecedent construct, figure 5 reports per each construct factor the Cronbach’s Alpha and per each item related to the construct the regression weight and the squared multiple correlation, including the items related to satisfaction (A19, A20 and A21).

*Figure 5 – Construct validity*

Construct	Sample items	Standardized regression weights (*)	Squared multiple correlations	Cronbach's $\alpha$
<b>Tangibles</b>				<b>0,60</b>
	A4 - Single bed room	0,64	0,41	
	A3 - Up-to-date devices and equipment	0,55	0,30	
	A5 - Visually appealing room	0,51	0,26	
	A6 - Clean room, premises and environment	0,43	0,18	
<b>Medical Assurance</b>				<b>0,64</b>
	A8 - Relation centered on a limited number of professional staff	0,96	0,93	
	A12 - Second opinion	0,17	0,03	
<b>Socialization</b>				<b>0,54</b>
	A10 - Chance and places to socialize	0,50	0,25	
	A7 - Share the room with patients having the same pathology	0,57		
	A9 - Maintain hobbies and personal interests	0,52	0,28	
<b>Responsiveness</b>				<b>0,70</b>
	A18 - Exhaustive answers to questions and requests	0,50	0,25	
	A1 - Exhaustive information about illness, diagnoses and therapy	0,47 (a)	0,22	
<b>Feel at home</b>				<b>0,38</b>
	A16 - Food adequate to diseases but satisfactory at the same time	0,57	0,33	
	A15 - Flexible visiting hours	0,35	0,13	
	A17 - Meals at convenient times	0,97	0,94	
<b>Empathy</b>				<b>0,39</b>
	A11 - Professional staff properly guide the therapy path	0,45 (b)	0,20	

	A2 - Chance to have psychological counseling	0,53	0,28	
<b>Fear</b>				<b>0,29</b>
	A14 - Family member's hospitality in the patient's room or in proximity	-0,21 (b)	0,04	
	A13 - Welcome services to reduce uneasiness	0,08	0,01	
<b>Satisfaction</b>				<b>0,94</b>
	A19 - Total and general satisfaction level	0,89	0,79	
	A20 - Level of satisfaction related to expectations	0,97	0,99	
	A21 - Positive word of mouth	0,75	0,57	

(\*) =  $p < 0,001$  ; (a) =  $p < 0,05$  ; (b) =  $p > 0,05$

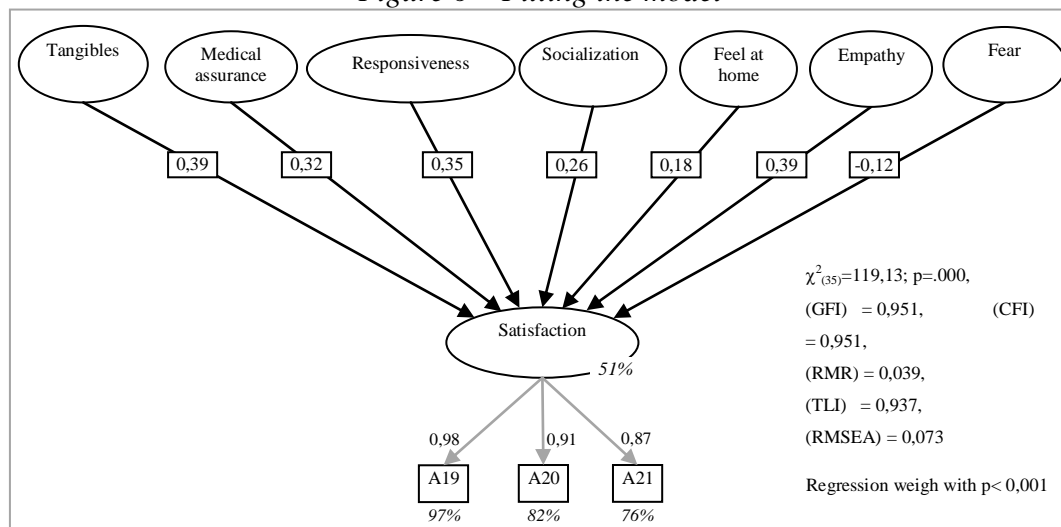
Cronbach's Alpha which is a key indicator of the convergent validity of each construct shows scores that are not always at the minimum threshold identifiable, according to Churchill (1979) in the value 0,6. Kept in mind that this research has a primary aim to analyze the antecedent of the satisfaction as an exploratory analysis we prefer to confirm this research setting, although in any part of it there is no confirmation of internal validity.

Please note that to measure the satisfaction construct we deviate from the SERVQUAL model, adopting a measurement model focused on the latent variables of satisfaction (see figure 5). The 3 latent variables results from the adaptation of the questionnaire. Validation of this approach to measure satisfaction can be found in previous works (Olorunniwo, Hsu, 2006; Olorunniwo, Hsu, Udo, 2006).

#### *Fitting the structural model*

The seven detected constructs plus the construct of satisfaction do not stand alone, but are ideally linked by cause-effect relation. The second part of our analysis is therefore suited to reconstruct cause-effect nexus among the constructs. In our model, antecedents are drivers of the satisfaction. Figure 6 shows the interpretative model fitted by the dataset obtained by the research.

*Figure 6 – Fitting the model*



To validate this model and confirm the fitting of the predicted model to the data dispersion, we analyze different fit indices.

Despite a significant  $\chi^2 = 119$  with 35 degree of freedom and  $p = 0,000$ , the following statistics suggest that the fit of the model was confirmed:

- The Goodness-of-Fit (GFI) index, the percentage of observed covariances explained by the model, amounts to 0,951 and, therefore, exceeds the baseline threshold stated as 0,90 (Bollen, 1990).
- The value of the Comparative Fit Index (CFI), which compares the covariance matrix predicted by the model to the observed covariance matrix, is 0,951.
- The Tucker-Lewis Index (TLI) amounts to 0,937. An amount close to 1 indicates a good fit. By convention, values of TLI below 0,90 indicate a need to respecify the model.

- The Root Mean Square (RMS) residual is 0,039. The closer the RMR is to 0 for a model being tested, the better the model fits. RMR is the coefficient which results from taking the square root of the mean of the squared residuals, which are the amounts by which the sample variances and covariances differ from the corresponding estimated variances and covariances, estimated on the assumption that the model is correct. The general rule of thumb assumes that the RMR should be lower than 0,05 for a good fit (Anderson, Gerbing, 1988).

All these tests let us believe that behavioral measures are indeed reliable, one-dimensional and valid, according to the general rule of thumb (Anderson, Gerbing, 1988).

*The structural model viewed from a care pathways perspective*

A second step of analysis was to understand how the 7 factors could change their influence on satisfaction according to the different pathways offered by the hospital. In particular two main sorting keys has been adopted: planned paths vs emergency ones and day hospital vs hospitalization. Under the new subset of data (planned vs emergency) the research model show different regression weights (fig.7).

Figure 7 – Planned vs Emergency

				Sample	Planned	Emergency
Cases				454	279	175
Technical	Hard	<b>Tangibles</b>	R.W.	0,39	<b>0,21</b>	<b>0,48</b>
	Hard	<b>Responsiveness</b>	R.W.	0,35	0,12	<b>0,46</b>
	Hard	<b>Medical assurance</b>	R.W.	0,32	0,10	<b>0,44</b>
Functional	Soft	<b>Feel at home</b>	R.W.	0,18	<b>0,17</b>	0,16
	Soft	<b>Socialization</b>	R.W.	0,26	<b>0,25</b>	0,21
	Soft	<b>Fear</b>	R.W.	-0,12	-0,11	-0,04
	Soft	<b>Empathy</b>	R.W.	0,15	<b>0,28</b>	0,01
<b>Satisfaction</b>			V.E.	0,51	0,35	0,72
			GFI	0,95	0,88	0,90
			RMR	0,04	0,11	0,25
			Chi2/df	3,4	6,7	2,8

Analyzing fit indices, as proposed at the bottom of figure 7, we can say that although the level of error is not acceptable, we take into account the emerging findings as qualitative speculations rather than a robust statistical analysis. This consideration is also supported by the fact that the sub-samples, determined after the split in accordance with the two dyads, are limited in cases. Therefore each emerging consideration should be re-read under the lens of the first approach experiment. We overcome this constraint and go further in the analysis creating a summing up matrix, see figure 8, which reports the regression weight of the seven antecedent to satisfaction in the four different care pathways.

Figure 8 – Day Hospital vs Hospitalization

				Sample	Day Hospital		Hospitalization	
Cases				454	a. Planned	b. Emergency	c. Planned	d. Emergency
Technical	Hard	<b>Tangibles</b>	R.W.	0,39	<b>0,21</b>	<b>0,25</b>	0,21	<b>0,50</b>
	Hard	<b>Responsiveness</b>	R.W.	0,35	0,03	<b>0,50</b>	<b>0,31</b>	<b>0,51</b>
	Hard	<b>Medical assurance</b>	R.W.	0,32	-0,03	<b>0,37</b>	0,11	<b>0,61</b>
Functional	Soft	<b>Feel at home</b>	R.W.	0,18	0,07	0,22	<b>0,28</b>	0,10
	Soft	<b>Socialization</b>	R.W.	0,26	<b>0,15</b>	0,13	<b>0,39</b>	0,10
	Soft	<b>Fear</b>	R.W.	-0,12	-0,17	-0,03	-0,02	-0,07
	Soft	<b>Empathy</b>	R.W.	0,15	<b>0,29</b>	<b>0,32</b>	<b>0,32</b>	0,22
<b>Satisfaction</b>			V.E.	0,51	0,16	0,60	0,32	0,94
			GFI	0,95	0,84	0,85	0,87	0,82
			RMR	0,04	0,12	0,07	0,1	0,79
			Chi2/df	3,4	5,5	3,6	2,3	2,80

**Discussion**

The results of research show that:

1. About the object of the investigation regarding the determinants of customer satisfaction, 7 factors emerged that partially follow the SERVQUAL model of the theoretical reference. Specifically, tangible, responsiveness, and empathy well overlap with factors identified both by the original model (Parasuraman, Zeithaml, Berry, 1985), and successively by adaptations to the health care setting (Babakus, Mangold, 1992; Kang, James, 2004). 3 new factors, however, emerge and they can be justified by the characteristics of the sample considered, the elderly. Vulnerable people, alone, easily disoriented, which could then stress, more than other categories of patients, elements like socialization, continuity (feel at home), and fear, as requests/expectations (i.e. satisfaction items) in the management of a moment of crisis such as the entrance in hospital.
2. Looking at these antecedents they show a bias toward the two constructs of “technical quality” and “functional quality” (Gronröos, 1984; Lassar, Manolis, Winsor, 2000). That is to say that there are antecedents more hard or performance linked (3) and antecedents more soft or process/relational linked. Thus confirming the dichotomy of the theoretical framework taken as research model (references 1 and 2 in figure 1).
3. As for the impact on satisfaction of the seven antecedents it is possible to notice some differences. Although all 7 factors have a positive sign (Fig. 6), confirming the Hp1 with the exception of the “fear” variable which have a negative regression weight on the satisfaction. Not every variable has the same weight. In fact, analyzing coefficients we can see that there are 3 elements judged as predominant such as structural aspects (tangibles), performance (medical assurance) and information (responsiveness) and 2 others such as socialization, feeling at home, which recorded a lower impact on satisfaction. Note how the other two factors, empathy and fear, pertaining to the second group, compensate each other. That’s to say: elderly to be satisfied with the care pathway looks firstly to performance (technical quality) but, considering it almost as a *conditio sine qua non*, gives it rewards to the relational aspects (functional quality) that will enhance his/her status as an elder (vulnerability, reduced autonomy, loss of social role, fragility, etc..) minimizing the effect of fear.
4. Despite the literature indicates a direction of prevalence of functional dimensions to the technical ones (Goodrich, Cornwell, 2008), as patient satisfaction antecedent, according to the previous considerations we can not completely confirm the Hp2. The reason could also be tied to specific situations in the care pathway. The aspect of empathy, seeing the person (the elderly) in the patient, is crucial but not sufficient to ensure satisfaction. Nothing would be in the absence of recognized performance elements, prodrome perhaps of the same condition of empathy. Therefore more than a “lighter weight” of the technical quality compared to the functional quality, one could talk about complementarity (according to our sample). Probably it depends on the type of situation.
5. In fact, going over the specifics of the services paths, we can identify a possible reading in the matrix day hospital - hospitalization (if we consider the stay/duration) and emergency - planned (if we consider the clinical condition). Analysis of the figure 8 shows that:
  - a. the sample of elderly for emergency hospitalizations stress on the hard factors, those related to the technical quality of the service.
  - b. for planned hospitalizations the soft factors, related to the functional quality, prevail.

A possible explanation could be linked to the emotional, psychological preparation to the event. In the emergency hospitalization, elderly in a crisis situation suddenly wants to be sure to see a solution to the problem (technical quality). While in the planned hospitalization the assessment of alternatives has been made, he/she has had time to prepare, to get informed. So the sample interviewed is more likely to think about how he/she will be treated (empathy), about his/her being away from home and from loved ones (socialization), he/she thinks how to maintain a normal situation (feel at home) in order to ensure a prompt recovery. Not surprising, however, the structural aspect (tangibles) is not indifferent. Spaces, clean rooms and single rooms help to create a sense of “feel at home”. Hp3a Hp3c, therefore, can be considered confirmed.

6. When a further level of detail is added to better specify the distinction between the followed care pathways, it emerges that the sample of elderly interviewed, while remaining coherent to Hp3a and Hp3c (planned is soft; emergency is hard), noted some additional variation. In the day hospital emergency compared to hospitalization emergency, the factor “tangibles” loses its strength perhaps justified by the limited duration. Given the level of criticality - “emergency” - the support dimension - “empathy” - regains its position as antecedent of satisfaction. Hp3b is then confirmed.

As for day hospital compared to planned hospitalization, the sample of elderly reports some incremental considerations at the point 5 of the discussion. “Feel at home” loses its importance in day hospital just because is a one day care and, given the more stable clinical condition, the sample seems to signal the possibility of being “social” and “empathy” (to pass the time, not feel neglected or forgotten while waiting). In the planned hospitalization, due to a greater number of days to spend, the “feel at home”, pass the time, the continuity and the ability to manage anxiety and uncertainty, pain, etc.. become the prevalent antecedents. For the type of hospitalization is not surprising the positive sign given to responsiveness, almost equivalent to that of the emergency, probably due to factors related to a longer course of the treatment and, for elderly, sometimes more uncertain in terms of recovery. Hp3d is supported.

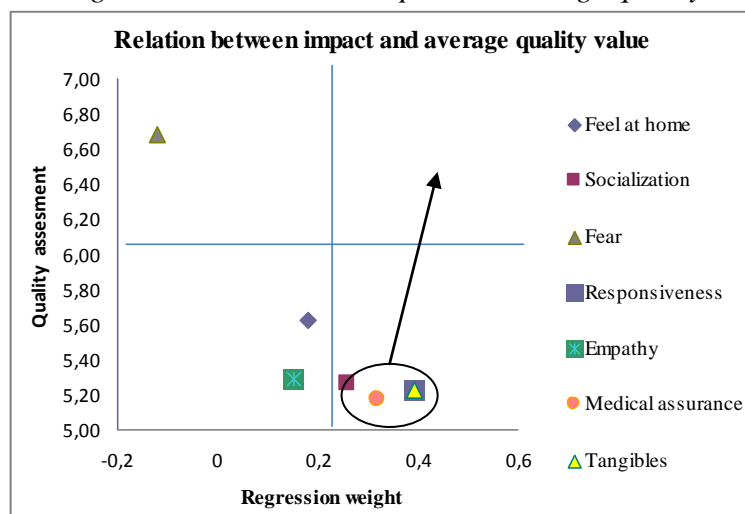
7. From a satisfaction point of view, having a look to the figure 7 (planned vs emergency), the sample analyzed signals:
- Technical quality elements are more important for emergency hospitalization, generating a higher level of satisfaction.
  - Functional quality elements are more important for planned hospitalization, generating a lower level of satisfaction.

That’s to say: the functional quality factors are important predictors of satisfaction, but are handled in a less attentive and structured way, giving further support to the Hp2.

### Conclusions and managerial implications

Results of our exploratory research on elderly patients are not of course generalizable because of the exiguity of the observations, therefore some preliminary considerations can be made about managerial implications coming from an analysis of the distribution of the seven variables in the matrix quality assessment – regression weight (or ability to predict customer satisfaction). Figure 9 graphically positions the seven antecedents and looking at it we can say that:

Figure 9 – Antecedents impact on average quality



- there a bias down of the seven variables in terms of quality assessment, apart from “fear”, positively judged, but having a very low weight in influencing satisfaction. Nurses and physicians may neglect the management of elderly patients’ fear because it seems to be not relevant, or not responding to health care service expectations.

- “medical assurance”, “tangibles” and “responsiveness” (low quality assessment – high weight) are the core expectations of elderly patients on which nurses and physician has to increase competences and attentions, also considering the hospitality dimension.
- “empathy” and “feel at home” and “socialization” (quite low quality assessment - mean weight in predicting satisfaction), are the variables that can make the difference in creating peripheral satisfaction, not the core service.

Directions to increase the quality of those critical variables may be: training the medical staff, coaching by psychologists, activate tele-medicine paths (responsiveness); training/second opinion with physicians not pertaining to the same hospital, establish clear and standardized protocol procedures (medical assurance), architects and engineers involved in the design of spaces, patients involved in the personalization of their own spaces, volunteers to animate the hospitalization stay (tangibles, socialization).

Judgments of satisfaction should be analyzed taking into account the experience of service made by the patients and considering their peculiar characteristics (Borgonovi, 2002). In fact service quality perceptions are formed during production, delivery and consumption process. Furthermore patients have a key role as co-producers and the experience is determinant in forming the service quality perceptions (Edvardsson, 2005), thus in evaluating the antecedents (different weights) of patient satisfaction.

### **Limits and future researches**

The explorative objective (finding the antecedents) and the sample characteristics (number of observations and elderly patients) represent the main limits of the research presented. The exploratory nature of the object of investigation imposed some limits on the constructs analyzed, and the small sample size does not allow generalizability of the results.

Firstly we can say that a further analysis could include a comparison of the seven variables, a variable on the other. Enlarging the sample base it would be possible to make a cluster analysis able to identify detailed patients profiles to cross with the care pathways in the evaluation of satisfaction. Concerning the constructs analysed, future researches could include the effect of customer satisfaction on patient’s behavioural intention. The literature already has signalled (Abramowitz et al., 1987; Choi et al, 2002; Chang et al. 2008) the positive impact of high levels of customer satisfaction on loyalty, trust, and positive word of mouth. It could be interesting to analyse the relationship satisfaction→advice→hospital image/reputation in order to understand how patient satisfaction could be, for example, an antecedent of the prior recognition of the hospital specialization.

Another construct to include in the analysis of patient satisfaction antecedents could be the clinical outcome. The starting consideration is that if high quality service has a greater presence in practices and medical organizations, it would improve clinical outcomes and patient and physician satisfaction while reducing cost, and it would create competitive advantage (Turner, 1995; Murfin, Schlegelmilch, Diamantopoulos, 1995; Kenagy, Berwick, Shore, 1999; Campbell, Roland, Buetow, 2000).

### **References**

- Abramowitz S., Cote A., Berry E. (1987), “Analyzing patient satisfaction. A multianalytic approach”, *Quality Review Bulletin*, Vol.13, No. 4, pp. 122-130.
- Alhashem A.M., Alquraini H., Chowdhury R.I. (2011), “Factors influencing patient satisfaction in primary healthcare clinics in Kuwait”, *International Journal of Health Care Quality Assurance*, Vol. 24, No. 3, pp. 249-262.
- Andaleeb S.S. (2001), “Service quality perceptions and patient satisfaction: a study of hospitals in a developing country”, *Social Science & Medicine*, Vol. 52, pp. 1359–1370.
- Anderson E.W., Sullivan M.W. (1993), “The antecedents and consequences of customer satisfaction for firms”, *Marketing Science*, Vol. 12, No. 2, pp. 125-43.
- Anderson J.C., Gerbing D.W. (1988), “Structural Equation Modelling in practice: A new and recommended two-step approach”, *Psychological Bulletin*, Vol. 103, May, pp. 411-423.

- Athanassopoulos A., Gounaris S., Stathakopoulos V (2001), "Behavioural responses to customer satisfaction: an empirical study", *European Journal of Marketing*, Vol. 35, No. 5/6, pp. 687-707.
- Babakus E., Boller G.W. (1992), "An empirical assessment of the SERVQUAL scale", *Journal of Business Research*, Vol. 26, No. 6, pp. 253-68.
- Babakus E., Mangold W.G. (1992), "Adapting the SERVQUAL scale to hospital services - an empirical investigation", *Health Services Research*, Vol. 26, No. 6, pp. 767-786.
- Bollen K.A. (1990), "Overall fit in covariance structure models: Two types of sample size effects", *Psychological Bulletin*, Vol. 107, No. 2, pp. 256-259.
- Borgonovi E. (2002), "Qualità dei servizi fiscali e soddisfazione del cittadino: uno schema concettuale di riferimento", *Proceedings Forum P.A.*
- Bowers MR., Swan JE., Koehler WF. (1994), "What attributes determine quality and satisfaction with health care delivery?", *Health Care Manage Review*, Vol. 19, N. 4, pp. 49-55.
- Berry L.L., Parasuraman A. (1991), *Marketing Services: Competing through Quality*, Free Press, New York, NY.
- Bigné J.E., Mattila A.S., Andreu L. (2008), "The impact of experiential consumption cognitions and emotions on behavioral intentions", *Journal of Services Marketing*, Vol. 22, No. 4/5, pp.303-315.
- Bitner M.J., Hubbert A.R. (1994), "Encounter satisfaction versus overall satisfaction versus service quality: the consumer's voice", in Rust R.T., Oliver R.L. (Eds), *Service Quality: New Directions in Theory and Practice*, Sage Publications, Thousand Oaks, CA.
- Bolton R.N., Drew J.H. (1991), "A Multistage Model of Customers' Assessments of Service Quality and Value", *Journal of Consumer Research*, Vol. 17, March, pp. 375-384.
- Boulding W., Kalra A., Staelin R., Zeithaml V.A. (1993), "A dynamic process model of service quality: from expectations to behavioral intentions", *Journal of Marketing Research*, Vol. 30, No. 1, pp. 7-27.
- Brice D. (1994), "Patient satisfaction", in *Patient-centered Care. A Model for Restructuring* (Parsons ML & Murdaugh CL eds), Aspen, Gaithersburg, MD, pp. 519-538.
- Brogowicz A.A., Delene L.M., Lyth D.M. (1990), "A synthesized service quality model with managerial implications", *International Journal of Service Industry Management*, Vol. 1, No. 1, pp. 27-46.
- Brown S.W., Swartz T.A. (1989), "A Gap Analysis of Professional Service Quality", *Journal of Marketing*, Vol. 53, April, pp. 92-98.
- Butt M.M., Cyril de Run E. (2010), "Private healthcare quality: applying a SERVQUAL model", *International Journal of Health Care Quality Assurance*, Vol. 23, No. 7, pp.658 – 673.
- Cadotte E., Woodruff R., Jenkins R. (1987), "Expectations and Norms in Models of Consumer Satisfaction", *Journal of Marketing Research*, Vol. 24, August, pp.305-314.
- Campbell S.M., Roland M.O., Buetow S.A. (2000), "Defining quality of care", *Social Science & Medicine*, Vol. 51, No. 11, pp. 1611-1625.
- Carey R., Posavac E. (1982), "Identifying consumer satisfaction through patient surveys", *Health Progress*, Vol. 68, No. 2, pp.56-58.
- Carman J.M. (1990), "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions", *Journal of Retailing*, Vol. 66, Spring, pp.33-55.
- Cassarreal K., Mills J., Plant M. (1986), "Improving service through patient surveys in a multihospital organization", *Hospitals and Health Services Administration*, Vol. 31, No. 2, pp. 41-52.
- Chang H.J., Lin C.P., Tsou M.Y., Chen C.T. (2008), "Determinants Of Customer-Perceived Service Quality In Senior-Care Industry And Their Relationship To Customer Satisfaction And Behavioral Intentions: Research Findings From Taiwan", *International Business & Economics Research Journal*, Vol. 7, No. 12.
- Choi K.S., Cho W.H., Lee S., Lee H., Kim C. (2002), "The relationships among quality, value, satisfaction and behavioral intention in health care provider choice: A South Korean study", *Journal of Business Research*, Vol. 57, pp. 913– 921.
- Chowdhary N., Prakash M. (2007), "Prioritizing service quality dimensions", *Managing Service Quality*, Vol. 17, No. 5, pp. 493–509.
- Churchill G.A. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs", *Journal of Marketing Research*, Vol. 16, February, pp. 64-73.
- Cronin J.J., Taylor S.A. (1992), "Measuring Service Quality: A Re-examination and Extension", *Journal of Marketing*, Vol. 56, July, pp. 55-68.
- Cronin J.J., Taylor S.A. (1994), "SERVPERF versus SERVQUAL: reconciling performancebased and perceptions-minus-expectations measurement of service quality", *Journal of Marketing*, Vol. 58, No. 1, January, pp. 125-31.
- Crosby P.B. (1979), *Quality is free*, New York: McGraw-Hill Company.
- Deming W.E. (1982), *Quality productivity and competitive position*, Massachusetts Institute Technology.
- Donabedian A. (1990), *La qualità dell'assistenza sanitaria, principi e metodologie di valutazione*, Roma: La Nuova Italia Scientifica.
- Edvardsson B. (2005), "Service quality: beyond cognitive assessment", *Managing Service Quality*, Vol. 15, No. 2, pp. 127-131.



- Ehnfors M., Söderström A. (1995), "Patient satisfaction with hospital care", *Nursing Sciences Research in the Nordic Countries*, Vol. 15, pp.19–29.
- Engel J.F., Kollatt D.T. Blackwell R.D. (1968), *Consumer Behaviour*, New York, The Dryden Press.
- Feigenbaum A.V. (2002), "Total quality management", *Encyclopedia of Software Engineering*.
- Fisk R.P., Young CE, (1985), "Disconfirmation of Equity Expectation: Effects on Consumer Satisfaction with Services", In: *Advances in Consumer Research XII*, (Eds) Hirschman E.C, Holbrook M.B., Ann Arbor, Michigan, Association for Consumer Research pp.340-345.
- Folkes V, (1984), "Consumer Reactions to Product Failure - an Attributional Approach", *Journal of Consumer Research*, Vol. 10, March, pp.398-409.
- Goodrich J., and Cornwell J. (2008), *Seeing the person in the Patient*, The King's Fund, London.
- Greeneich D. (1993), "The link between new and return business and quality of care", *Patient satisfaction Advances in Nursing Science*, Vol. 18, No.1, pp. 62-72.
- Grönroos C. (1984), "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44.
- Grönroos C. (1990), *Service Management and Marketing*, Lexington Books, Lexington, MA.
- Gronroos C. (2001), "The perceived service quality concept – a mistake?", *Managing Service Quality*, Vol. 11, No. 3, pp. 150-2.
- Gummesson E., Grönroos C. (1987), "Quality of products and services – a tentative synthesis between two models", Research Report, Center for Services Research, University of Karlstad, Sweden.
- Haverila M.J., Bateman R.E., Naumann E.R. (2011), "The Drivers of Customer Satisfaction in Strategic Consulting Engagements: A Global Study", *Management Decision*, Vol. 49, No. 8.
- Haywood-Farmer J., Nolle J. (1991), *Services Plus: Effective Service Management*, Morin, Boucherville, Que.
- Headley DE, Miller SJ. (1993), "Measuring service quality and its relationship to future consumer behavior", *Journal of Health Care Marketing*, Vol. 13, No. 4, pp. 32-41.
- Howard J.A., Sheth J.N. (1969), *The Theory of Buyer Behavior*, New York, J. Wiley & Sons.
- Heskett J.L., Jones T.O., Loveman G.W., Sasser W.E. Jr, Schlesinger L.A. (1994), "Putting the service profit chain to work", *Harvard Business Review*, March/April, pp. 105-11.
- Hinshaw A. (1992), Welcome Patient outcomes research conference, In *Patient Outcomes Research Examining the Effectiveness of Nursing Practice* Proceedings of the state of the science conference sponsored by the National Center for Nursing Research, September 11-13, National Institutes of Health Publication, No 93-3411, Rockville, MD.
- Hostage G.M. (1975), "Quality Control in a Service Business", *Harvard Business Review*, July/August, pp. 98-106.
- Hu H.Y., Chiu S.I., Cheng C.C., Hsieh Y.F. (2010), "A study on investigating patient satisfaction of medical centers using Taiwan customer satisfaction index in Taiwan", *African Journal of Business Management*, Vol. 4, No. 14, pp. 3207-3216.
- Hunt K.H. (1977), *CS/D: Overview and Future Research Directions: Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction*, (Ed) Hunt, K.E.
- Iannettoni M.D., Lynch W.R., Parekh K.R., McLaughlin K.A. (2011), "Kaizen Method for Esophagectomy Patients: Improved Quality Control, Outcomes, and Decreased Costs", *The Annals of Thoracic Surgery*, Vol. 91, No. 4, pp. 1011-1018.
- Imai M. (1986), *Kaizen: the key to Japan's competitive success*, Kaizen Institute.
- Johansson P., Oléni M., Fridlund B. (2002), "Patient satisfaction with nursing care in the context of health care: a literature study", *Scandinavian Journal of Caring Sciences*, Vol. 14, N. 4, pp. 337-344.
- Johnston R. (1995), "The determinants of service quality: satisfiers and dissatisfiers", *International Journal of Service Industry Management*, Vol. 6, No. 5, pp. 53-71.
- Jöreskog K.G., Sörbom D. (1982), "Recent Developments in Structural Equation Modeling", *Journal of Marketing Research*, Vol. 19, No. 4, pp. 404-416.
- Juran J. (1995), *A history of managing for quality*, Milwaukee, Wisconsin: ASQC Quality Press.
- Kang G.D., James J. (2004), "Service quality dimensions: an examination of Gronroos's service quality model", *Managing Service Quality*, Vol. 14, No. 4, pp. 266-277.
- Kenagy J.W., Berwick D.M., Shore M.F. (1999), "Service Quality in Health Care", *American Medical Association*, Vol 281, No. 7, pp. 661-665.
- Kline R.B. (1998), "Software programs for structural equation modelling: AMOS, EQS, and LISREL", *Journal of Psycho Educational Assessment*, Vol. 16, No. 1, pp. 343-364.
- Ladhari R. (2009), "A review of twenty years of SERVQUAL research", *International Journal of Quality and Service Sciences*, Vol. 1, No. 2, pp.172 – 198.
- Lam S.K.K. (1997), "Servqual: a tool for measuring patients' opinions of hospital service quality in Hong Kong", *Total Quality Management*, Vol. 8, No. 4, pp. 145-52.
- Lassar W.M., Manolis C., Winsor R. (2000), "Service quality perspectives and satisfaction in private banking", *Journal of Services Marketing*, Vol. 14, No. 3, pp. 244-271.

- Lee H., Lee Y., Yoo D. (2000), "The determinants of perceived service quality and its relationship with satisfaction", *Journal Of Services Marketing*, Vol. 14, No. 3, pp. 217-231.
- Levesque T., McDougall G.H.G. (1996), "Determinants of customer satisfaction in retail banking", *International Journal of Bank Marketing*, Vol. 14, No. 7, pp. 12-20.
- Liljander V., Strandvik T. (1993), "Estimating zones of tolerance in perceived service quality and perceived service value", *International Journal of Service Industry Management*, Vol. 4, No. 2, pp. 6-28.
- Mahon P.Y. (1996), "An analysis of the concept 'patient satisfaction' as it relates to contemporary nursing care", *Journal of Advanced Nursing*, Vol. 24, No. 6, pp. 1241-1248.
- Mitchell R., Leanna J., Hyde R. (1999), "Client satisfaction with nursing services evaluation in an occupational health setting", *The American Association of Occupational Health Nurses Journal*, Vol. 47, No. 2, pp.74-79.
- Murfin D.E., Schlegelmilch B.B., Diamantopoulos A. (1995), "Perceived Service Quality and Medical Outcome: an Interdisciplinary Review and Suggestions for Future Research", *Journal of Marketing Management*, Vol. 11, pp. 97-117.
- Mutter R.L., Rosko M.D., Greene W.H., Wilson P.W. (2011), "Translating Frontiers Into Practice: Taking the Next Steps Toward Improving Hospital Efficiency", *Medical Care Research and Review*, Vol. 68, No. 1, pp. 3S-19S.
- Nicosia F.M. (1966), *Consumer Decision Processes, Marketing and Advertising Implication*, Englewood Cliffs, New Jersey, Prentice-Hall.
- Nwabuezea U. (2011), "Implementing TQM in healthcare: The critical leadership traits", *Total Quality Management & Business Excellence*, Vol. 22, No.3, pp. 331 – 343.
- Oliver R.L. (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions", *Journal of Marketing Research*, Vol.17, pp.460-469.
- Oliver R.L. (1993), "A conceptual model of service quality and service satisfaction: compatible goals, different concepts", in Swartz T.A., Bowen D.E., Brown, S.W. (Eds), *Advances in Services Marketing and Management*, Vol. 2, pp. 65-85.
- Oliver R.L. (1994), "Conceptual issues in the structural analysis of consumption emotion, satisfaction and quality", Evidence in service settings, *Advances in Consumer Research*, Vol. 21, pp. 16-22.
- Olorunniwo F., Hsu M.K. (2006), "A typology analysis of service quality, customer satisfaction and behavioral intentions in mass services", *Managing Service Quality*, Vol. 16, No. 2, pp. 106-123.
- Olorunniwo F., Hsu M.K., Udo G.J. (2006), "Service quality, customer satisfaction, and behavioral intentions in the service factory", *Journal of Services Marketing*, Vol. 20, No. 1, pp. 59-72
- Olshavsky R.W., Miller J.A. (1972), "Consumer Expectations, Product Performance and Perceived Product Quality", *Journal of Marketing Research*, Vol. 9, February, pp.1 9-21.
- Ottosson A, Edvinsson L. (1997), "Release of histamine from dural mast cells by substance P and calcitonin gene-related peptide", *Cephalalgia*, Vol. 17, pp. 166-174.
- Pal M.N., Choudhury K. (2009), "Exploring the dimensionality of service quality: an application of topsis in the Indian banking industry", *Asia-Pacific Journal of Operational Research*, Vol. 26, No. 1, pp. 115-34.
- Parasuraman A., Zeithaml V.A., Berry L. (1985), "Conceptual Model of Service Quality and Its Implications for Future Research", *Journal of Marketing*, Vol. 49, Fall, pp. 41-50.
- Parasuraman A., Zeithaml V.A., Berry, L.L. (1994), "Reassessment of expectations as a comparison standard on measuring service quality: implications for further research", *Journal of Marketing*, Vol. 58, No. 1, January, pp. 111-24.
- Pascoe G. (1983), "Patient satisfaction in primary health care A literature review and analysis", *Evaluation and Program Planning*, Vol. 6, No.3, pp.185-210.
- Pauly M.V. (2004), "Competition in Medical Services and the Quality of Care: Concepts and History", *International Journal of Health Care Finance and Economics*, Vol. 4, N. 2 , pp. 113-130.
- Phillips L.D., Chang D.R., Buzzell R. (1983), "Product quality, cost position and business performance: a test of some key hypotheses", *Journal of Marketing*, Vol. 47, Spring, pp. 26-43.
- Pisnik Korda A., Snoj B. (2010), "Development, Validity and Reliability of Perceived Service Quality in Retail Banking and its Relationship With Perceived Value and Customer Satisfaction", *Managing Global Transitions*, Vol. 8, No. 2, pp. 187-205.
- Powpaka S. (1987), "The role of outcome quality as a determinant of overall service quality in different categories of services industries - an empirical investigation", *Journal of Service Marketing*, Vol. 10, No. 2, pp. 5-25.
- Reichheld F., Sasser W.E.Jr. (1990), "Zero Defections: Quality Comes to Services", *Harvard Business Review*, Vol. 68, No.September/October, pp. 105-111.
- Reynoso J. (2010), "Satisfaction: A Behavioral Perspective on the Consumer", *Journal of Service Management*, Vol. 2, No. 4, pp.549 – 551.
- Romagnosi G., Fontana A., Bergamasco F. (2000), "Analisi della customer satisfaction: nostra esperienza", *Riv Med Lab – JLM*, Vol. 1, N. 3.
- Rosen L.D., Karwan K.R., Scribner L.L. (2003), "Service quality measurement and the disconfirmation model: taking care in interpretation", *Total Quality Management*, Vol. 14, No. 1, pp. 3-14.

- Ross C.K., Frommeit G., Hazeiwood L., Chang R.W. (1987), "The role of expectations in patient satisfaction with medical care", *Journal of Health Care Marketing*, Vol. 7, N. 4, pp. 16-26.
- Seth N., Deshmukh S.G., Vrat P. (2005), "Service quality models - a review", *International Journal of Quality & Reliability Management*, Vol. 22, No. 9, pp. 913-949.
- Shattell M. (2007), "Boredom in acute psychiatric care", *Issues in Mental Health Nursing*, Vol. 28, No. 6, pp. 661-662.
- Sitzia J., Wood N. (1997), "Patient Satisfaction: A Review Of Issues And Concepts", *Social Science & Medicine*, Vol. 45, No. 2, pp. 1829-1843.
- Sohail M.S. (2003), "Service Quality in Hospitals: More Favourable Than You Might Think", *Managing Service Quality*, Vol. 13, No. 3, pp. 197-206.
- Steiber S., Krowinski W. (1990), *Measuring and managing patient satisfaction*, American Hospital Association, Chicago.
- Strandvik T. (1994), *Tolerance Zones in Perceived Service Quality*, Swedish School of Economics and Business Administration, Helsinki.
- Strauss B., Chojnacki K., Decker A., Hoffman F. (2001), "Retention effects of a customer club", *International Journal of Service Industry Management*, Vol. 12, No. 1, pp. 7-19.
- Sureshchandar G.S., Rajendran C., Anantharaman R.N. (2002), "Determinants of customer-perceived service quality - a confirmatory factor analysis approach", *Journal Of Services Marketing*, Vol. 16, No. 1, pp. 9-34
- Taylor S.A. (1993), "The roles of service quality, consumer satisfaction, and value in Quinn's (1992) paradigm of services", *Journal of Marketing: Theory and Practice*, Vol. 2, No. 1, Fall, pp. 14-25.
- Taylor S.A., Baker J.J. (1994), "Modeling patient satisfaction and service quality", *Journal of Health Care Marketing*, Vol. 14, No. 1, pp. 34-44.
- Teas R.K. (1993), "Expectations, performance evaluation, and consumers' perceptions of quality", *Journal of Marketing*, Vol. 57, October, pp. 18-34.
- Thomas L., Bond S. (1995), "Outcomes of nursing care. The case of primary nursing", *International Journal of Nursing Studies*, Vol. 28, pp. 291-314.
- Thompson A.G.H. Sunol R. (1995), "Expectations as Determinants of Patient Satisfaction: Concepts, Theory and Evidence", *International Journal for Quality in Health Care*, Vol. 7, No. 2, pp. 127-141.
- Turner P.D., Pol L.G. (1995), "Beyond Patient Satisfaction", *Journal of Health Care Marketing*, Vol. 15, N. 3, pp. 45-53.
- Vuori H. (1987), "Patient satisfaction — An attribute or indicator of the quality of health?", *Quality Review Bulletin*, Vol. 13, No. 3, pp. 106-108.
- Ware Jr, Davies-Avery A. Stewart A. (1978), "The measurement and meaning of patient satisfaction", *Health & Medical Care Services Review*, Vol 1, p 1.
- Ware Jr, Davies A. (1983), "Behavioral consequences of consumer dissatisfaction with medical care", *Evaluation and Program Planning*, Vol. 6, No.3, pp. 291-297.
- Westbrook R. (1987), "Product/Consumption Based Affective Responses", *Journal of Marketing Research*, Vol. 24, August, pp.258-270.
- Wilkin D., Hallam L., Doggett M. (1992), *Measures of Need and Outcome for Primary Health Care*, Oxford University Press, New York.
- Wong A. (2000), Integrating supplier satisfaction with customer satisfaction", *Total Quality Management*, Vol. 11, No. 4/5&6, pp.427-432.
- Woodruff R.B., Codotte E.R., Jenkins R.L. (1983), "Modelling Consumer Satisfaction Processes Using Experience Based Norms", *Journal of Marketing Research*, Vol. 20, August, pp.296-304.
- Yang J., Liu Y-S., Leong J. (2011), "A Comparative Study of Service Failure and Service Recovery Efforts between Chain and Independent Restaurants", *16th Graduate Students Research Conference*, January 6-8, Houston, Texas.
- Yasin M., Augusto M., Lisboa J., Miller P. (2011), "Assessing the competitive effectiveness of hospitals: The role of quality improvement initiatives", *Total Quality Management & Business Excellence*, Vol. 22, No. 4, pp. 433 – 442.
- Zairi M. (2000), "Managing customer satisfaction: a best practice perspective", *The TQM Magazine*, Vol. 12, No. 6, pp. 389-94.
- Zeithaml V.A., Berry L.L., Parasuraman A. (1993), "The nature and determinants of customer expectations of service", *Journal of the Academy of Marketing Science*, Vol. 21, No. 1, pp. 1-12.
- Zeithaml V.A., Bitner M.J. (2000), *Services marketing*. New York: McGraw-Hill.
- Zineldin M. (2000), "Total relationship management (TRM) and total quality management (TQM)", *Managerial Auditing Journal*, Vol. 15 No. 1/2, pp. 20-8.

## **QUALITY AND DESTINATION IMAGE: DIFFERENCES BETWEEN VISITORS AND NON-VISITORS. AN ITALIAN PERSPECTIVE ON SOUTH AFRICA**

**Vania Vigolo**, University of Verona, [vania.vigolo@univr.it](mailto:vania.vigolo@univr.it)

### **1. Tourism in South Africa**

In 1580, British navigator Sir Francis Drake described Cape Point as “the fairest cape” in the entire world. More than 400 years later Cape Town confirms its uniqueness by coming first in the TripAdvisor 2011 Travelers’ Choice Destinations Awards, beating world cities and destinations such as Paris, New York City, Rome and London. Cape Town is the administrative capital and second most populous city in South Africa, still a young holiday destination but with a constantly growing trend in international arrivals. In 2010, South Africa was host to the World Cup, which greatly increased its international visibility.

Tourism is a strategic sector for the economy of the Country and contributes for approximately 10% of the GDP. International arrivals have more than doubled since 1994, the year of the first democratic elections, now reaching almost 10 million.

The diversity that features South Africa, not by chance named “the Rainbow Nation”, is the key resource for the tourism sector. The Country in fact offers a great number of holiday opportunities to tourists: a varied natural environment, the possibility of close contact with wild nature, a mild, mostly sunny and warm climate, the possibility of practicing sports, archeological sites that represent key moments in the evolution of the human race, a rich cultural heritage represented in particular by indigenous African tribes, modern infrastructures, high level congress and exhibition centers, internationally renowned attractions (Table Mountain, Cape of Good Hope, Kruger National Park, just to mention the most famous).

Domestic tourism represents two thirds of total tourism volume in South Africa. It is encouraged because it does not suffer the seasonality typical of international tourism though contributing only to a limited extent to income from the sector. In fact, the average daily expense spent by a domestic tourist is 160 Rands (about 16.60 Euros) compared to the 1080 Rands (111.95 Euros) spent by the international tourist.

Regarding the purpose of visit of international tourists, leisure represents about 58% of the total with a substantial number of tourists whose main purpose is visiting friends and relatives. There are also a large percentage of persons going to South Africa for business (almost 30%). A constantly growing share in recent years also goes to medical tourism (5% of the total).

South African Tourism believes that the business tourism can play a key role in promoting international arrivals and reducing seasonality. South Africa, on the other hand, is well organized to welcome this type of customers thanks to high level of accommodation facilities and infrastructures, further increased in quantity and quality thanks to the FIFA 2010 World Cup. Business tourists generally stay for a shorter time than leisure tourists but they spend more and distribute more evenly over time and over the territory of South Africa. They also contribute to leisure tourism because often their business trips have a parallel relaxation component with various types of recreational activities alongside business activities. Many businessmen come back in subsequent years bringing friends and/or family members.

Regarding medical tourism, this is an increasingly strong source of income. It regards both cosmetic surgery and delicate operations of other kinds such as transplants, heart operations, orthopaedic dental surgery and obesity surgery. It is estimated that in 2008 4.3% of foreign tourists went to the Country for medical reasons.

## **2. Italian tourism in South Africa**

Italy is a strategic market among the “generating regions” for tourist flows to South Africa: it is in the top 10 of extra-continental arrivals and is one of the eight Countries that, by themselves, set 18% of international arrivals and produce 40% of revenues.

This is the reason why South African Tourism has recently carried out a study to analyze the trip habits of Italians. As a general rule, holidays are one aspect of life that the majority of Italians find it hard to give up. They would rather try to reduce costs by turning to special offers, reducing the length of their holidays or selecting closer destinations. Italian tourists are highly seasonable, travelling mostly in August and are strongly oriented towards domestic or short-distance (within the boundaries of Europe) trip, stimulated by low-cost flights and the many offerings from tour operators. It is estimated, in fact, that only 22% of Italian travellers go abroad and of these only 13% select a long-distance trip whereas the others prefer closer destinations.

In 2010, about 60,000 Italian tourists visited South Africa. Most of the Italian tourists who go to South Africa have high monthly incomes, mainly belong to the 25 to 44 year group and are, for two thirds, males. The average stay is around 13-14 days with the most frequent duration being 6 days and the average daily expense equal to 740 Rands (about 77 Euros).

Regarding their purpose of visit, Italians go to South Africa mostly for pleasure even though business tourism is becoming increasingly important.

The activities preferred by Italians in South Africa are mainly tied to Nature (visiting natural attractions, wildlife, beach) and culture (cultural and historical heritage).

Nature and wildlife in general and adventure are the aspects perceived as strongpoints in the South African tourist offering. Competitors from this standpoint are Australia and Kenya and, as far as adventure is concerned, India as well. Nature and related activities (i.e. safaris) are the main sources of satisfaction for the Italians who visited South Africa, alongside the hospitality of the South Africans themselves.

According to South Africa Tourism, among factors that act as deterrents for a trip to South Africa the first is the price factor whereas the second was “no reason in particular” and the third “there’s another more attractive destination”. This leads one to think that a limited knowledge of the Country leads to preferring other better-known destinations with stronger and more defined images. As Pike and Ryan (2004) state, the majority of tourist products, and consequently also of destinations, are intangible and consequently can only compete by images. For this reason the destination image is so important when selecting a destination and can often play a key role in survival of the destination itself.

## **3. Destination image: Literature review**

The concept of destination image was widely dealt with in literature starting from the nineteen seventies. Various authors have published reviews on the theme (Chon, 1990; Echtner and Ritchie, 1991; Jenkins 1999; Pike 2002; Beerli and Martin, 2004, Tasci and Gartner, 2007).

Destination image can be defined as the idea that a tourist (potential or actual) creates of a specific tourist destination. Destination image is a multidimensional construction and is subjective (Alhemoud and Armstrong, 1996; Fayeke and Crompton, 1991; Seaton and Bennett, 1996). But

nevertheless it can correspond to the perception of a group of individuals (Crompton, 1979; Pearce 1988).

The destination image formation process can be generated both by stimulus factors (physical object or previous experience) and by personal factors (individual's social and psychological characteristics) (Balogu and McCleary, 1999a). In addition, individuals with different psychological characteristics, i.e. travel motivations and cultural values, tend to perceive the same tourist destination in a different way (San Martín and Rodríguez del Bosque, 2007).

The destination image determines the attractiveness of a destination irrespective of the process by which it is formed and of the factors that affect this process (Gartner, 1993) and affects the decision whether or not to go to a destination (Pike and Ryan, 2004; Jenkins, 1999; Bigné, Sánchez and Sánchez, 1999). Destinations with a strong image in fact have a greater possibility of being included in the tourist's assessment process and of being selected. However, destination image is able to influence not only the selection processes but all the phases of the tourist's behavior, before, during and after the holiday (O'Leary and Deegan, 2003). Jenkins, basing herself on previous research (Mayo, 1973 and 1975; Crompton, 1979; Chon, 1992; Mercer, 1971; MacInnis and Price, 1987; Selby and Morgan, 1996), shows the strong bond that exists not only between destination image and decision behaviors of potential tourists but also between destination image and levels of post-visit satisfaction. Moreover, Bigné, Sánchez and Sánchez (1999) also studied the relations between destination image and behavioral intentions on the one hand and post-visit assessment on the other and show the strong bond that exists between image and quality, satisfaction, return and recommendations for visits. Familiarity with the destination, and consequently direct experience, helps create a more positive image compared to that which is formed in the mind of those who have not visited the destination (Gartner and Hunt, 1987). For long-distance destination, familiarity tend to decrease and knowledge about the destination can be vague (Prebensen, 2007; Pike et al., 2010).

Trip experiences are used by Gunn (1972) as discriminating factor to identify an organic image (proper of a tourist who has not visited yet a specific destination and who has not searched for or received commercial information in this regard) and a modified induced image (which is the result of personal experience of the destination). Various studies compare the perceptions of tourists who have, versus those who have not, previously visited a destination (Chon, 1992; Milman and Pizam, 1989; Baloglu and McCleary, 1999b; Hughes and Allen, 2008; Phillips and Jang, 2010).

Some authors (Beerli and Martín, 2004; Baloglu and McCleary, 1999a; Ryan and Cave, 2005) have emphasized how destination image is the result of evaluation of cognitive and affective elements, the first understood as knowledge and convictions on the attributes of the destination, the second understood as sentiments that individuals feel about the destination. The affective dimension has a psychological orientation and is commonly measured by a set of 4 dimensions measured by a semantic differential: pleasant-unpleasant, relaxing-distressing, arousing-sleepy, exciting-gloomy (Russel et al., 1981).

Several authors (Um and Crompton, 1990; Reilly, 1990 and Pearce, 1988) stressed the importance of the holistic aspect and the overall impression of the destination image. The dualism attribute-holistic is proposed also by Echtner and Ritchie (1991; 1993), whose model shall be adopted for the purposes of this paper. The authors suggest that destination image is defined by two other dimensions: common vs. unique characteristics and functional vs. psychological traits. Firstly, the common-unique dualism refers to the components on which the destination image is formed, which can be unique (associating exclusively with the destination being examined) or common with other destinations. Secondly, the destination image can be assessed by taking into account both functional and psychological attributes, the first of which are measurable (for example accommodation, price, etc.) and the second, more intangible, only perceptible (for example: atmosphere.). In this sense, functional attributes approach cognitive attributes and psychological attributes those that are affective. However, some authors consider functional and psychological factors to be part of the same cognitive dimension (Bigné Alcañiz, Sánchez García and Sanz Blas, 2009). According to Echtner and Ritchie (1991), each characteristic that can be assigned to a tourist destination can

consequently be classified along one of the three continuum created by the binomials that are proposed.

From the standpoint of the methodology for studying the destination image, Echtner and Ritchie (1991) also highlight the general preference to use structured methods which, compared to unstructured methods, are simpler to manage and give results that are easier to analyze. On the other hand, however, the two researchers maintain that, basing oneself essentially on the concrete attributes of the destinations being examined makes for less accurate methods as far as the holistic and psychological component are concerned. However, it is also true that these limits can be substantially reduced by carefully planning, a priori, the investigation, turning to the already-well-established methods.

#### **4. Objectives**

The purpose of this paper is to study South Africa's image as a tourist destination from an Italian perspective, investigating both visitors' and non-visitors' perceptions. This general objective is reflected in the following research questions:

1. Is there any significant difference between visitors' and non-visitors' perceptions of the destination?
2. Can destination attractiveness be a predictor of travel intentions?
3. Is destination attractiveness related to destination image? Are there any differences between visitors and non-visitors?

#### **5. Methodology**

A survey was conducted on a non-probabilistic sample of 165 Italians of which 34.5% had previously visited South Africa. Echtner and Ritchie (1991) approach was adopted, but the distinction between common and unique attributes was not included since it was not considered relevant for this study. Data was collected in April-May 2011 using a semi-structured questionnaire submitted both by mall-intercept in a city in North Italy (face-to-face interviews) and on a link posted on some social networks and sites for travellers centered on South Africa. As far as visitors were concerned, some of the questionnaires (26.3%) were also collected through an incoming tour operator who does business in South Africa. This helped overcome the difficulty of intercepting individuals that had visited the Country (as previously stated, less than 60.000 Italians went to South Africa in 2010).

The questionnaire included five sections.

Section one comprised some questions to investigate the respondents' main associations related to South Africa and the sources of information upon which their knowledge of the Country is based. They were also asked two basic questions about the country (such as "what are the official languages spoken in South Africa?" and "what is the ethnic composition of the population?") to test the knowledge of the destination by the interviewees. A filter question was used to distinguish visitors from non-visitors.

Section two was a 19-item scale which measured the functional attributes of the destination adapted from well-known scales (Echtner and Ritchie, 1991; 1993). The items included in the scale were: "tourist information points and services", "restaurants", "accommodation facilities", "recreation/entertainment", "sports facilities/activities", "cultural activities", "adventure activities (i.e. safaris...)", "natural attractions/scenery", "animals", "climate", "local uses and customs",

“local food”, “local crafts”, “events and shows”, “means of communication (mobile phone, internet...)”, “public transportation”, “cleanliness/hygiene”, “infrastructure (roads, airports, etc.)”.

Section three included psychological holistic associations, which can be defined as “feelings about the overall impressions” of the destination (Echtner and Ritchie, 1991). Considering that South Africa is an emerging country, the associations chosen for purpose of this paper intended to express the twofold nature of the country. Items such as “young”, “advanced”, “dynamic”, “emerging” and “westernized” defined the modernity of the Country, whereas the items “poor”, “politically unstable”, “economically unstable”, “undergoing a social crisis”, “backward” and “dangerous” described the unfavourable image of South Africa. These last items formed a scale which will be referred to as “badwill”. This term usually refers to the negative effect felt by a company when shareholders and investors find out that it has done something which is not considered a good business practice. Badwill can result in decreased revenues, loss of clients or suppliers, loss of market share etc. In a certain sense, South Africa as a tourist destination suffers the drawbacks of being an African country, or better, a sub-Saharan country, therefore often associated to poverty, bad services when not wars or diseases. The items selected for the scale try to measure this particular dimension.

In section four, the attractiveness of the destination was measured with 6 psychological items: “interesting”, “adventurous”, “fascinating”, “unique”, “authentic” and “hospitable”. In addition, two items were included to evaluate the perception of the price (functional attribute) and the value-for-money (psychological attribute) of the destination offering as a whole.

In each section, respondents were asked to rate the proposed items on a 1-5 Likert scale (1= Very Unfavorable; 5= Very Favorable).

The internal consistency of the scales included in the questionnaire was tested using Cronbach’s alpha, which showed satisfactory results for all scales (functional attributes 0.850; modernity 0.764), badwill 0.741) and attractiveness 0.808).

Section five, consisted of demographic items including gender, age, educational level and travel habits. In addition, visitors were asked to express their overall satisfaction with the destination. Responses could rate from 1 (extremely dissatisfied) to 5 (extremely satisfied). Finally, revisit intention (“Would you return to...?”) and intention to recommend the destination (“Would you recommend it to someone?”) were measured from 1 (definitely no) to 5 (definitely yes). On the same 1-5 scale, non-visitors were asked to rate the likelihood of visiting the destination.

Lastly, an open-ended question about the reasons for returning to South Africa was left for visitors.

## **6. Results**

Of the 165 respondents, 45,5% were male and 54,5% were female. Age ranged from 17 to 76, with an average age of 35.4 years. Almost one third of the respondents (34,5%) had visited South Africa before. Throughout, interviewees who had never visited South Africa are referred to as ‘non-visitors’ and those who had as ‘visitors’.

The group of visitors is composed of 54.4% male respondents and 45.6% female with an average age of 39.9 years. Most of visitors (57,9%) have a university-level education. The majority of visitors (42.1%) travel more than three times a year, 39.3% travel two to three times a year and 24.6% only once a year. There is a predominance of visitors (98.2%) traveling also outside Europe. Most of the respondents (75.4%) went to South Africa for leisure, 8.8% for business and 15.8% for



both purposes. This is reflected in the general travel motives of visitors. One third of respondents (31.5%) self-organized their travel to South Africa, while the majority had their travel organized by a tour operator or a travel agency. Of these, 80% bought a tailor-made tour and 20% a standardized package tour. The average length of stay is 15 days.

In the group of non-visitors, there are 40,7.% male and 59.3% female respondents with an average age of 33 years. Most of the respondents have secondary (43,5%) or university education (45,4%). Respondents in this group travel mainly once a year (48.6%), one third (33.6%) travel two to three times a year and only 17% travel more than 3 times a year. The majority of visitors (85%) travel for leisure motives, 2.8% for business and 10.3% for both reasons. Nearly half of the individuals travel only within Europe (43%) and those travelling outside Europe frequently mentioned destinations in Northern Africa, which is still considered a short-haul destination for Italian tourists.

With regard to the associations that come to mind when thinking of South Africa, no particular differences between visitors and non-visitors emerged. Nature is the element most frequently mentioned by the majority of visitors (86%) and non-visitors (66%), followed by animals (mentioned by 80,1% of visitors and 57.4% of non-visitors) and adventure (mentioned by 43.8% of visitors and 42.6% of non-visitors). Only 10 non-visitors indicated sunshine and beaches as a major association, while 4 visitors and 3 non-visitors associated South Africa with sports. The other associations proposed (relax and entertainment) obtained lower observations (<3), while some of the respondents mentioned golf courses, biodiversity or the recent history of South Africa (i.e. apartheid) as the most immediate associations with the Country.

Among the main sources of information on the country, the majority of non-visitors (70.4%) named television, followed by films (30.5%), magazines/newspapers and internet. Visitors base their knowledge of the Country mainly of direct experience, but tourist guides as well as word-of-mouth and television play an important role.

With regard to respondents' knowledge about South Africa, it may be surprising how much two basic questions could produce confusion and uncertainty not only among those who had never visited the country, but also among visitors. In fact, only 11% of non-visitors answered correctly to the question about the official language of the country (a dozen languages, including English). However, this percentage is very small also among visitors (29.8%). The ethnic composition of South African population generated some doubts among both groups: 60.2% of non-visitors and 86% of non-visitors answered correctly (mainly black population).

In order to compare the image of South Africa between visitors and non-visitors, a t-test for independent samples was performed. Findings demonstrate significant differences in each scale used: functional attributes, modernity, badwill and attractiveness.

When it relates to functional attributes, the t-test show a significant difference ( $p= 0.000$ ,  $t= -6.872$ ) between the perceptions of visitors and not visitors: the former have more positive perceptions of functional attributes ( $M= 4.10$ ) compared non-visitor ( $M= 3.68$ ).

The same applies to the dimension of modernity ( $p= 0.000$ ,  $t =-7.097$ ): visitors perceive South Africa as a more modern destination ( $M= 3.92$ ) than non-visitors do ( $M= 3.29$ ). On the contrary, perception of badwill among non-visitor ( $M= 3.07$ ) is significantly higher ( $p= .000$ ,  $t =5.250$ ) than among tourists who have traveled to South Africa ( $M = 2.63$ ).

Destination attractiveness is significantly higher for those who have already visited the destination ( $M= 4.55$  compared to  $M= 4.05$  for non-visitor).

A significant difference between the two groups was found for the value-for-money item ( $p = .000$ ,  $t = -6,069$ ). In fact, visitors hold a more positive perception ( $M = 4.19$ ) of the value-for-money offered by South Africa compared to non-visitor ( $M = 3.49$ ). However, no significant difference emerged for the variable "expensive" ( $t = 1.967$ ,  $p = 0.053$ ).

As for the intention to visit South Africa, a significant difference was found between visitors and non-visitors ( $p = 0.000$ ;  $t = 0.7998$ ). Visitors show a strong desire to revisit South Africa ( $M = 4.80$ ), whereas non-visitors express a lower intention to visit the country ( $M = 3.77$ ).

A linear regression analysis was conducted on the relationship between the destination's attractiveness and the travel intention stated by visitors and non-visitors. The destination's attractiveness was determined to be an indicator of travel intentions, therefore was deemed as the independent variable.

Table 1 contains the results of the analysis for the total sample. For the whole set of tourists under analysis (visitors and non-visitors), the destination attractiveness plays a significant role in motivating to visit or revisit the destination at a confidence level of 99%. The likelihood to visit or revisit the destination can be said to be positively dependent on tourists' perception of destination attractiveness. Destination attractiveness explained approximately 32% ( $R^2 = 0.324$ ) of the total variance in tourists intentions and there is a strong positive correlation ( $R = 0.569$ ,  $p = 0.000$ ) between the two variables.

**Table 1: Regression model for attractiveness vs. visiting intentions – All respondents**

**Model Summary**

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	,569 <sup>a</sup>	,324	,320	,763

- a. Predictors: (Constant), Attractiveness
- b. Dependent: Intention to visit South Africa

**ANOVA<sup>b</sup>**

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	45,217	1	45,217	77,644	,000 <sup>a</sup>
	Residual	94,344	162	,582		
	Total	139,561	163			

In continuation, the analysis will be made also for each of the tourists sub-samples: visitors and non-visitors.

*Visitors*

The results of the linear regression analysis (Table 2) produced a significance value of 0.000, which indicated that destination's attractiveness was a predictor for travel intentions of subjects who had already visited South Africa. Destination attractiveness explained approximately 55% ( $R^2 = 0.553$ ) of the total variance in visitors' travel intentions and a positive and high correlation ( $R = 0.744$ ,  $p = 0.000$ ) between attractiveness and travel intentions emerged. This signified that destination attractiveness will significantly contribute to visitors' intention to revisit South Africa.

**Table 2: Regression model for attractiveness vs. visiting intentions – Visitors**

**Model Summary – Visitors**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,744 <sup>a</sup>	,553	,545	,373

- a. Predictors: (Constant), Attractiveness
- b. Have you ever been in South Africa? = Yes
- c. Dependent variable: Would you return to South Africa?

**ANOVA<sup>b,c</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9,315	1	9,315	66,853	,000 <sup>a</sup>
	Residual	7,524	54	,139		
	Total	16,839	55			

The relationship between destination attractiveness and destination image in terms of functional attributes, modernity, badwill and value-for-money was also examined through a Person correlation test.

For visitors, destination attractiveness presents a strong correlation with functional attributes ( $R=0.715$ ,  $p=0.000$ ) and a medium correlation with the dimensions modernity ( $R=0.471$ ,  $p=0.000$ ) and value-for-money ( $R=0.545$ ,  $p=0.000$ ). The results show a moderate negative correlation ( $r=-0.265$ ,  $p=0.048$ ) with the dimension badwill.

*Non-visitors*

The results of the linear regression analysis (Table 3) indicate a significance level of 0.000 for the relationship between destination attractiveness and travel intentions also for non-visitors. Therefore, destination attractiveness can be considered a predictor for non-visitors. There was a medium correlation ( $R=0.356$ ,  $p=0.000$ ) between attractiveness and behavioural intentions. This means that if non-visitors' perceived attractiveness of the South Africa increases, intention of visiting the destination will increase. However, destination attractiveness explained only 12.7% ( $R^2=0.127$ ) of the total variance in non-visitors' travel intentions.

**Table 3: Regression model for attractiveness vs. visiting intentions – Non-visitors**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,356 <sup>a</sup>	,127	,118	,828

- a. Predictors: (Constant), Attractiveness
- b. Have you ever been in South Africa? = No
- c. Dependent variable: Would you go on holidays in South Africa ?

**ANOVA<sup>b,c</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10,541	1	10,541	15,375	,000 <sup>a</sup>
	Residual	72,672	106	,686		
	Total	83,213	107			

As for visitors, the relationship between destination attractiveness and destination image in terms of functional attributes, modernity, badwill and value-for-money was also examined through a Person correlation test.

Destination attractiveness presents a medium correlation only with functional attributes ( $R= 0.440$ ,  $p= 0.000$ ) whereas no significant correlations were found for the other dimensions (modernity  $p= 0.341$ ; badwill  $p= 0.956$ ; value-for-money  $p= 0.301$ ).

For non-visitors, attractiveness is higher when there is a positive perception of functional characteristics of the destination, whereas perceptions related to modernity, badwill or value-for-money are not correlated to destination attractiveness.

With respect to the open-ended question about reasons for returning to South Africa, only few visitors answered and therefore results will not be reported.

## **7. Discussion, limitation and further research**

This study was applied, from an Italian perspective, to an emerging and long-distance tourism destination, i.e. South Africa. The perceptions and travel intentions of Italian tourists (visitors and non-visitors) were compared and the relationship between destination attractiveness and tourists' travel intention was examined.

The findings allow relevant conclusions to be obtained both from an academic and a managerial perspective.

Firstly, personal experience in the destination can produce significant difference in terms of destination image. This result confirms what emerged in other studies: familiarity with the destination tend to generate a more positive perception of the destination image (Milman and Pizam, 1989; Gartner and Hunt, 1987; Ryan and Cave, 2005). Though nature, animals, adventurous activities gain high score both for visitors and non-visitors, visitors tend to express more positive associations about South Africa. The only item which visitors perceive more negatively than non-visitors is public transport: this is indeed a weakness for South Africa as a travel destination and something should be done to help tourists moving around easily also with public means of transport. Interestingly, no significant difference between visitors and non-visitors was found for the item "expensive", whereas visitors do hold a significantly higher perception of the value-for-money offered by South Africa. This could be explained by the fact that, though visitors and non-visitors agreed that South Africa is not a particularly expensive destination, those who had been in South Africa experienced higher quality levels than expected by non-visitors.

Secondly, linear regression showed that destination attractiveness is a good predictor of travel intentions for visitors. However, destination attractiveness, though a significant predictor, only accounts for a small part of the total variance in non-visitors' travel intentions. This implies that other factors play a significant role in determining non-visitors' intention to go or not to go to South Africa and marketers should make an effort to identify what critical elements influence the destination choice of long-travelling Italian tourists.

Thirdly, destination attractiveness for visitors is positively related to functional attributes, modernity and value-for-money, whereas for non-visitors it correlates positively only with functional attributes. According to non-visitors' responses, the psychological associations examined in this study do not seem to impact on destination attractiveness. These results could find an

explanation in the fact that South Africa is not a well know destination for Italian tourists. Though having high brand awareness, as Tourism South Africa pointed out in its study (2010), destination image seems to be still too blurred among non-visitors. This is confirmed by the fact that, during the interviews, some respondents had only a vague idea of South Africa (a few of them thought that “South Africa” generically indicated the Southern part of the Continent) and tended to associate it to the image of Africa. This could be due in part to the fact that South Africa is still a young destination (until 1994 travels to South Africa were discouraged by the international community because of apartheid) and in part to the fact that it is a long-distance destination for Italian tourists. In addition, South Africa suffers of what in this study has been defined as badwill, i.e. the fact of been geographically situated in a continent whose organic image (Gunn, 1972) is highly influenced by negative “uncontrolled communication” (news, TV documentaries etc.). In fact, communication about Africa is usually related to tragic situations such as poverty, famine, civil wars, AIDS, thus contributing in the creation of a negative halo-effect (Thorndike, 1920; Leuthesser et al., 1995). However, results show that the items that obtained the lowest scores by non-visitors (“tourist information points and services”, “means of communication”, “local food”, “restaurants”, “infrastructures”, “cleanliness/hygiene”) are in fact not considered so unfavourably by visitors. From a managerial perspective, this could provide some useful insights for communication activities. In fact, it is important to guide the tourist in the formation of the destination image since internal and external factors influence the overall image. Destination managers could effectively highlight factors that distinguish South Africa from “the rest” of sub-Saharan Africa.

This study contributes to a better understanding of South Africa’s image from an Italian perspective. The results of this study confirm that destination attractiveness will influence the decision to travel to that location. However, if attractiveness could be a relevant factor in explaining the intention of individuals that have already visited the destination, it does not seem sufficient to explain the intentions of respondents who have not yet visited South Africa.

The main limitations of this study are due to the sample size. The base of respondents needs to be expanded in order to provide more robust insights about perceptions of Italian tourists.

Further research needs to be conducted to find out other relevant predictors of tourist behavior for long-haul and emerging destinations such as South Africa. Since in the questionnaires visitors expressed enthusiastic comments about their experience in the destination, it could be useful to include more psychological and affective dimensions of image in future lines of research.

## References

- Alhemoud, A.M., Armstrong, E.G. (1996), “Image of tourism attractions in Kuwait”, *Journal of Travel Research*, Vol. 34, Issue 4, pp. 76-80.
- Baloglu, S., McCleary, K.W. (1999a), “A Model of Destination Image Formation”, *Annals of Tourism Research*, Vol. 26, Issue 4, pp. 868-897.
- Baloglu, S., McCleary, K.W. (1999b), “U.S. International Pleasure Travelers’ Images of Four Mediterranean Destinations: A Comparison of Visitors and Non-visitors”, *Journal of Travel Research*, N. 38, pp. 144-152
- Beerli, A., Martin J. D. (2004), “Factors Influencing Destination Image”, *Annals of Tourism Research*, Vol. 31, Issue 3, pp. 657-681
- Bigné, J. E., Sánchez, M. I., Sánchez, J. (1999), “Tourism image, evaluation variables and after purchase behaviour: inter-relationship”, *Tourism Management*, N. 22, pp. 607-616.
- Chon, K. S. (1992), “The role of destination image in tourism: an extension”, *The Tourist Review*, N. 2, pp. 2-7
- Chon, K.-S. (1990), “The role of destination image in tourism: a review and discussion”, *The Tourist Review*, Vol. 45, Issue 5, pp. 2-9.

- Crompton, J. L. (1979), "An assessment of the image of Mexico as a vacation destination and the influence of geographical location upon that image", *Journal of Travel Research*, Vol. 17, Issue 4, pp. 18-23
- Cronbach, L. J. (1951), "Coefficient alpha and the internal structure of tests", *Psychometrika*, Vol. 16, Issue 3, pp. 297-334.
- Echtner, C.M., Ritchie, J.R.B. (1991), "The meaning and measurement of destination image", *The Journal of Tourism Studies*, Vol. 2, Issue 2, pp. 2-12.
- Echtner, C.M., Ritchie, J.R.B. (1993), "The measurement of destination image: an empirical assessment", *Journal of Travel Research*, Vol. 31, Issue 4, pp. 3-13
- Fayeke, P.C., Crompton, J.L. (1991), "Images differences between prospective, first time and repeat visitors to the Lower Rio Grande Valley", *Journal of Travel Research*, Vol. 30, Issue 2, pp. 10-16.
- Gartner, W. C. (1993), "Image formation process", In M. Uysal, & D. R. Fesenmaier (Eds.), *Communications and channels systems in tourism marketing* (pp. 191–215), New York: Haworth Press.
- Gartner, W. C., Hunt, J.D. (1987), "An Analysis of State Image Change over a Twelve-Year Period (197-1983)", *Journal of Travel Research*, Vol. 26, Issue 2, pp. 15-19.
- Gunn, C. A. (1972), *Vacationscape – Designing Tourist Regions*, Austin: Bureau of Business Research, University of Texas.
- Hughes, H.L., Allen, D. (2008), "Visitor and non-visitor images of Central and Eastern Europe: a qualitative analysis", *International Journal of Tourism Research*, Vol. 10, Issue 1, pp. 27–40.
- Jenkins, O. H. (1999), "Understanding and Measuring Tourist Destination Images", *International Journal of Tourism Research*, N. 1, pp. 1-15.
- Leuthesser, L., Kohli, C., Harich, K. (1995), "Brand Equity: The Halo Effect Measure", *European Journal of Marketing*, N. 4, pp. 57-66.
- MacInnis, D. J., Price, L. L. (1987), "The role of imagery in information processing: review and discussion", *Journal of Leisure Research*, N. 3, pp. 473-491
- Mercer, D. (1971), "The role of perception in the recreational experience: a review and discussion", *Journal of Leisure Research*, N. 3, pp. 261-276.
- Milman, A., Pizam, A. (1989), "The role of awareness and familiarity with a destination: the Central Florida case", *Journal of Travel Research*, Vol 33, Issue 3, pp. 21-27.
- O’Leary, S., e Deegan, J. (2003), "People, Pace, Place: Qualitative and Quantitative Images of Ireland as a Tourism Destination in France", *Journal of Vacation Marketing*, Vol. 9, Issue 3, pp. 213-226
- Pearce, P.L. (1988), "Perceived changes in holiday destinations", *Annals of Tourism Research*, N. 9, pp. 145-164.
- Phillips, W-M.J., Jang, S.C. (2010), "Destination image differences between visitors and non-visitors: a case of New York city", *International Journal of Tourism Research*, Vol. 12, Issue 5, pp. 642–645.
- Pike, S. (2002), "Destination image analysis: a review of 142 papers from 1973 to 2000", *Tourism Management*, N. 23, pp. 541-549.
- Pike, S., Bianchi, C., Kerr, G., Patti, C. (2010), "Consumer-based brand equity for Australia as a long-haul tourism destination in an emerging market", *International Marketing Review*, Vol. 27, Issue 4, pp.434-449
- Pike, S., Ryan, C. (2004), "Destination Positioning Analysis through a Comparison of Cognitive, Affective, and Conative Perceptions", *Journal of Travel Research*, N. 42, pp. 333-342.
- Prebensen, N.K. (2007), "Exploring tourists’ images of a distant destination", *Tourism Management*, N. 28, pp. 747-756.
- Reilly, M.D. (1990), "Free elicitation of descriptive adjectives for tourism image assessment", *Journal of Travel Research*, Vol. 28, Issue 4, pp. 21-26.

- Russel. J.A., Ward L.M., Pratt, G. (1981), "Affective quality attributed to environments: a factor analytic study", *Environment and Behavior*, Vol. 13, Issue 3, pp. 259-288.
- Ryan, C., Cave, J. (2005), "Structuring Destination Image: a Qualitative Approach", *Journal of Travel Research*, N. 44, pp. 143-150.
- San Martìn, H., Rodriguez del Bosque, I.A. (2008), "Exploring the cognitive-affective nature of destination image and the role of psychological factors in its formation", *Tourism Management*, N. 29, pp. 263-277.
- Seaton, A.V., Benett, M.M. (1996), *Marketing tourism products, concepts, issues, cases*, London, International Thomson Business Press.
- Selby, M., Morgan, N. J. (1996), "Reconstruing place image – a case-study of its role on destination market research", *Tourism Management*, Vol. 17, Issue 4, pp. 287-297.
- Tasci, A.D.A., Gartner, W.C. (2007), "Destination image and its functional relationships", *Journal of Travel Research*, Vol. 45, pp. 413-425.
- Thorndike, E.L. (1920), "A constant error on psychological rating", *Journal of Applied Psychology*, IV, pp. 25-29
- Um, S., Crompton, J.L. (1990), "Attitude determinants in tourism destination choice", *Annals of Tourism Research*, Vol. 17, pp. 432-448.

## **Business model Innovation of Complex Service Providers: A Quest for Fit**

**Ivanka Visnjic ([ivanka.visnjic@esade.edu](mailto:ivanka.visnjic@esade.edu))**

**ESADE Business School, Ramon Llull University  
Cambridge Service Alliance, University of Cambridge**

**Andy Neely ([adn1000@cam.ac.uk](mailto:adn1000@cam.ac.uk))**

**Cambridge Service Alliance, University of Cambridge**

### **ABSTRACT**

Providers of complex services rely substantially on business model innovation, which unfolds through two fit-seeking movements. First, the provider seeks to reconfigure its value proposition so that it better fits with the client's activity system. Often this involves the provider extending the value proposition that he is accountable for, with a purpose to grow and acquire innovation potential. Second, the provider seeks to reconfigure the value delivery system, maintaining within his direct activity system the activities that are best suited to his competence base and/or strategically linked to his activity system, while relying on ecosystem partners to handle the rest. The purpose of this value delivery system reconfiguration is to achieve internal business model fit, whilst appropriately leveraging the competencies of the ecosystem for higher effectiveness and efficiency. Simultaneous reconfigurations and extensions of the value proposition and reconfigurations of value delivery system lead to an increase of accountability spread and ecosystem exposure. Our research suggests that a firms' ability to manage its risk exposure may determine the sustainability and long term success of its shift to more complete solutions.



## INTRODUCTION

In recent years business model innovations seem to be becoming ever more pervasive. Globalization and digitalization, two of the most significant trends in recent years, have generated a new set of opportunities and threats for incumbent firms and entrepreneurs (Magretta 2002). Business leaders seem to believe that reinventing their ‘business model’ is key to remain in the driving seat of the world economy (Institute for Global Value 2008; Boston Consulting Group 2009).

A couple of years since business models came to the forefront of business debates, decision makers seem to be concerned again with what goes on in the environment: ‘complexity’ and ‘interconnectedness’ of the ecosystems, brought by globalized and digital technology represents another phenomenon that keeps CEO’s awake at night (Institute for Global Value 2010). What has changed is that ICT advances – especially with respect to communication (e.g. internet-speed information exchange) and data capture (e.g. widely distributed instruments such as sensors and RFID technology) – offer the potential of economical agents to tackle the inefficiencies due to firm-silos functioning and that the data opens up the a set of new opportunities to deliver value across firm boundaries as well. The business community seems to be on a lookout for business models that enable firms to compete with and within this complexity( Casadesus-Masanell and Ricart 2011).

While practitioners clearly articulate their substantial interest in business model innovation, the interest within academia remains modest, but rises steadily. Aside of some notable contributions in defining the business model construct and explaining its theoretical underpinnings (Amit and Zott 2001; Zott and Amit 2010) and typology and sources of value it offers (Zott and Amit 2007; Teece 2010), substantial contributions to understanding the mechanics of business models and the dynamics of their innovation trajectories are yet to come.

Admittedly, very interesting research contributions exist on links between the business model and strategy (Casadesus-Masanell and Ricart 2010), the choice of a business model and the market strategy (Zott and Amit 2008) and in particular, business model innovation and technology innovation (Chesbrough 2010; Gambardella and McGahan 2010). The nature of the extant literature is that it builds from a focus mainly on the role of business model innovation within entrepreneurial, technology-led sectors.

While research on agile SMEs that combine novel business models with technological innovation has enriched our understanding of value creating potential of business model innovation (Zott and Amit 2010), our understanding of the nature and innovation trajectory of business models within ecosystems with relatively lower rate of technological innovation and higher extent of complexity remains scarce. The objective of this paper is to participate in closing this research gap by extending the theoretical milestones of business models through examination of business model innovation practices of providers of complex service and solutions (such as utility providers, ICT and professional service providers) and the ecosystems that host them.

Relying on in-depth case study research of 12 providers and their ecosystems, we concentrate on answering the following questions:

- If and how are complex service providers innovating their business models?
- How are complex service providers looking to create value through business model innovation?

First, we find that in the case of complex service providers the ecosystem dynamics and the position of a firm within it are at least as relevant for the business model innovation potential and performance as is the behavior of the competitors. In short, our findings emphasize the role of the ecosystem in the attainment of sustainable competitive advantage.

Second, we find that just looking at ‘what a service firm does’ and ‘what resources and capabilities it has’ is not sufficient. We separate the level of a firm’s accountability towards its customers that is described in its value proposition (e.g. provision of ‘power-by-the-hour’ engine capacity) from the firm’s activity system and the associated resource-base involved in the delivery of that value (e.g. maintenance of an engine, capital resources for leasing). Our findings suggest that all complex service providers seek to change their value proposition by reconfiguring it to deliver a greater fit from the perspective of the client’s business model rather than their own, while simultaneously extending the scope of their own service offerings particularly towards additional service activities, longer timeframes and guarantees associated with the service performance. The aim is, therefore, to provide ever-growing, encompassing solutions that are consistent with customers’ needs and activity systems. Concerning the changes in the value delivery system we notice that all complex service providers are looking to reconfigure their value proposition by actively involving their ecosystem partners in the value delivery. Given growing frequency and importance of the ecosystem involvement in value delivery, the trend to extend the scope of the value delivery within a firm is not pronounced and the inverse of it may well be the case. Simultaneously, higher accountability installed in extended value proposition and exposure to the ecosystem installed in the reconfigured value delivery lead to the increase in risk exposure. While the discussion section outlines capabilities involved in reconfiguring and extending the value proposition in order to grow and innovate and capabilities involved in reconfiguring the value delivery in order to become more effective and efficient, the emphasis is put on the resources and capabilities for the management of the risk exposure. Understanding the extent and nature of the risks involved in the provision of complex services is crucial to avoid risk exposure with delayed effect.

Overall, we deduce that complex service providers look to create value and achieve sustainable competitive advantage by expanding their value propositions - this puts them in a position to innovate and restructure the delivery of the value, but in doing so they also have to manage the associated risk exposure. Given the importance of information for both sources of value, we label this value creation source the economies of information.

The paper is structured as follows. First, we provide a brief overview of the extant literature on business models. Second, we describe the research setting and methodology. Third, we elaborate on results of the study with respect to the business model innovation trends. Fourth, we discuss the capabilities that seem to underpin success of these business model innovations and finally, we conclude and examine the implications of our study for theory and practice.

## **THEORETICAL UNDERPINNINGS OF THE BUSINESS MODEL RESEARCH**

While the phrase ‘business model’ has been in colloquial use for over two decades, the first theoretical foundations of this construct were advanced in the beginning of the previous decade. Set to understand the theoretical foundations of value creation in e-business, Amit and Zott (2001) observe that no single entrepreneurship or strategic management theory can fully explain the value creation potential of e-business. Instead, they offer the business model construct as a unit of analysis for future research on value creation, which resides on the integration of five sources of value creation, each representing an underpinning of a distinct school of thought in management: value chain, innovation, transaction costs, resources and strategic networks.

Amit and Zott (2001) define business model as a design of transaction content, structure, and governance so as to create value through the exploitation of business opportunities. According to them, the products or services that are being exchanged consist of the transaction content, which represents capabilities and resources required to make the exchange possible. The transaction structure refers to the way different parties involved in an exchange are linked to each other, including the order in which exchanges take place and the type of exchange mechanism adopted. The transaction governance relates to how the transaction content and the transaction structure are controlled by the concerned parties through the legal form of organization and the incentive schemes. In a more recent contribution, Zott and Amit (2010) draw on their earlier work to present the business model as an activity system, which represents a collection of activities designed to address perceived market needs. An activity system is seen to possess design elements, content, structure and governance that depict the architecture of the system.

Later studies offer an alternative view on the dimensions and design elements of the business model. With some variation, these studies see business models as a combination of value proposition, value capture or a revenue model and value delivery (Magretta 2002; Johnson, Christensen et al. 2008; Teece 2010). Value proposition can be interpreted as the offering, a product, service or a solution that a firm offers to its client(s). Value capture or a 'revenue model' represents a mechanism that a firm uses to appropriate value from this offering (e.g. a price, annuity), while value delivery represents a configuration of a system of processes, resources and actors that bring the offering to the customer. At the same time, Magretta (2002) recognizes that business model can be seen as a template or even a story that explain how enterprises work and how the pieces of a business fit together.

While earlier contributions clearly establish the systemic nature of the business model and the importance of its elements (content, structure and governance or value proposition, capture and delivery), later studies strengthen the notion of the interdependencies within the focal firm as well as across the boundaries of a single firm. Zott and Amit (2010) argue that a business model, as a system and a locus of value creating potential, exceeds the boundaries of one firm, representing a system of interdependent activities that transcends the focal firm boundaries and spans across the ecosystem of firms interconnected by the virtue of their value creation functions. The nature of the business model, therefore, enables the firm, in concert with its partners, to create value and also defines how a single firm appropriates a share of that value.

As the notion of firm boundaries and sector-level interdependencies becomes central to the business model design, the emerging literature on industry architecture starts to inform our understanding of business models, especially from the perspective of value appropriation. Two factors seem to play a particularly strong role. First, Teece (1986; Pisano & Teece, 2007) argue that a firm's failure to ensure access to critical co-specialized complementary assets will allow the owner of those assets to appropriate a disproportionate part of value created by the firm's innovations. In this sense, access to complementary assets has to be accounted for when shaping firm boundaries, and therefore a business model. Jacobides et al. (2006) argues, however, that besides complementarity, factor mobility also plays a role in definition of a firm's boundaries. Factor mobility relates to "how easy it is to replace one set of complementary assets with another" (Jacobides et al. 2006) and low factor mobility at a particular level of a value chain is likely to emanate from a low degree of competition and high barriers to entry. The implication of these insights is that firms can benefit from shaping their business models in a way that maximizes their access to the complementary assets or activities or assets and activities that have lower mobility. Firms that control bottleneck assets and complements will be positioned to capture a disproportionate share of the value created (Jacobides et al., 2006; Pisano & Teece, 2007; Jacobides 2009).

A number of studies explore what role business models play in value creation and value appropriation. By examining how 59 American and European e-businesses that had recently become publicly traded corporations create value, Amit and Zott (2001) formulate four dimensions of business model with respect to the source of value creation: efficiency, complementarities, lock-in, and novelty. Further, they explore a relationship of the choice between the two of these value creation mechanisms, novelty and efficiency, with the choice of a market strategy (Zott and Amit 2008).

Other studies further discuss the relationship between business model innovation and technology innovation (Chesbrough 2010; Gambardella and McGahan 2010). According to Chesbrough and S. Rosenbloom (2002; Chesbrough, 2010), technology breakthroughs require business models that support their commercialization. Johnson et al. (2008) support this argument by pointing out that the focus on product and technology innovation is no longer sufficient and that new technologies and new business models have to be coupled to exploit many business opportunities. According to Chesbrough (2010), the way in which a technology is commercialized can be so decisive to its success that an intrinsically valuable technology can end up creating less value than a mediocre one, depending on the business model adopted. Gambardella and McGahan (2010) see business model as a means of generating profit by being more efficient and effective than competitors by accumulation of strategic resources that in a modern economy are increasingly intangible (e.g. scientific knowledge and intellectual property).

Most studies that define the business model and explain its value creation sources largely focus on sectors where business model innovation is directly connected to technology innovation (e.g. business models that help to commercialize new technology). In this respect, these findings are of utmost importance to the sectors and firms that rely on sophisticated technology as the source of their value creation. Further to that, findings are best suited for the entrepreneurial and agile firms rather than large incumbents that operate in sectors that benefit indirectly of technological advances.

This study attempts to extend the research on business models by looking at the value creation patterns of business model innovation in an entirely different setting to the one usually explored. In large ecosystems, geared towards the delivery of complex services and solutions, the labor-intensive nature of the offering may limit the value creating potential of technological innovation, but the complex nature of the solution (and the activity system that provides it) allows for significant business model innovation. As Zott and Amit (2010) note, the design of the business model is a key decision to be taken not only by the entrepreneur who creates a new firm, but also by managers who should ensure old models are rethought in order to adapt the firm to a new business environment.

## **RESEARCH METHODOLOGY**

Given the exploratory nature of business models research in the context of complex service systems, we conducted case study research of 12 firms that provide or participate in a provision of complex services. As the nature of the research questions required us to perform an exhaustive survey of all organizational characteristics as well as to disentangle their complex interdependencies, we opted for an inductive case study design (Eisenhardt, 1989). Multiple, comparative case studies were chosen to allow for replication logic and incite an enriched understanding of the dynamics at play (Yin, 1994).

The choice of the firms was both deliberate and representative (Eisenhardt, 1989; Yin, 1994); we selected firms that differ with respect to the type of the sector and ecosystem they belong to, as well as the type of complex service that they are providing. The choice of the firms and

sectors has been guided by a survey of 10 academic and 5 practitioner experts, who were asked at the onset of the study, to recommend relevant sectors and complex service providers with innovative business models. While the diversity on the level of the sector was sought after with an aim to obtain a more diverse portfolio of business model characteristics, we were also looking for diversity with respect to the ecosystem dynamics; more specifically, we were looking at the firms that operate in one type of the ecosystem, with a single customer or a number of similar customers and, on the other hand, firms that operate across different ecosystems (e.g. support service provider that provides all support services for city councils vs. support service provider that focuses on building and construction support services for any type of client). This distinction seemed relevant with respect to the firm's ability to develop lasting relationship within an ecosystem and a client. Finally, we made sure to have at least two firms from the same or similar sectors, in order to be able to isolate the sector-specific characteristics.

Finally, we ended up with two rail transportation solution providers, two energy and water utilities, two defense solution providers, two support service providers and four consulting service providers with IT, logistics or innovation specialization. Overall, six firms operated in a single-client ecosystem, two operated in ecosystems that have multiple similar clients that are dominant within a geography and, finally, four firms operated across different ecosystems with multiple clients.

----- INSERT TABLE 1 ABOUT HERE -----

For each of the research targets, the primary researcher conducted 90-minute interview with, on average, two informants both coming from top management ranks (e.g. CEO, CIO, managing consultant, business lead), resulting in an overall count of XX interviews. The right profile and seniority of the respondents was a priority over a number of respondents within the firm. We were focusing primarily on interviewing top management, because of the encompassing and strategic nature of the topic and the questions that we were looking to obtain. Two respondents, on average, seemed sufficient to obtain a coherent picture of the firm's business model.

Interviews were structure resided on the core constructs of the business models research outlined earlier (Kvale, 1996). Firstly, we would ask respondents to describe their business model, using the general questions such as 'what does your firm do?'. Additional questions were asked to obtain full picture of the activity system, other ecosystem participants and their activity systems (that were relevant for the focal firm). More specifically, the primary researcher was looking to obtain a full picture of the content, structure and governance of their business model (Amit and Zott, 2010) by asking 'who provides which activity and how is this provision organized'. The primary researcher then explicitly asked questions such as 'what is the firm's business model and how did it change over the last period?', 'what is the value proposition you offer to your client(s) and how did it evolve?', 'how have you been delivering the value proposition over the last period?', 'how do you create value within your ecosystem?' and 'how do you capture that value?'.

Interviews were recorded and then transcribed, while background data was collected from secondary sources in parallel. Transcripts were first coded with respect to their fit with the broad categories defined in literature (value proposition, capture and delivery or activity system content, structure and governance). During the second coding, new subcategories were allowed to emerge (e.g. characteristics of the activities, nature of the linkages). After analyzing business models of each individual firm independently, both researchers proceeded with independent cross-firm analysis. The resulting insights have been compared across the categories and sub-categories with the aim to identify patterns and arrange them in a coherent 'storyline' that explains value creation of business models hosted by complex service

providers and their ecosystems. The researchers then compared the resulting insights to obtain the coherent story. Data was used as a first resource to resolve any differences of the analysis.

The process of validation has been two-fold. First, in the effort to validate our understanding of the characteristics of individual firm business models we have been inviting firm representatives to workshops where the analysis of their business model has been presented and/or we have sent their informants their business model profiles. Second, the results of the cross-firm analysis have been shared with diverse group of academics and practitioners, including the informants from the research organization. All comments presented on individual case or cross-firm analysis have been accepted and incorporated in the analysis.

## **RESULTS: CHARACTERISTICS OF BUSINESS MODEL INNOVATION (BMI)**

Our research analysis proved that the data offered by respondents regarding the direction and effects of their business model innovations lends itself well to be structured along three broad areas, already recognized by extant literature: architecture of the industry or the ecosystem, value proposition and value delivery<sup>1</sup>. In the result section below, we offer overarching conclusions that have been broadly supported by all the respondents, substantiating each of the conclusions with a number of examples. In addition, the Table 2 gives a comprehensive overview of the business model characteristics for each of the firms.

----- INSERT TABLE 2 ABOUT HERE -----

### **Ecosystem determinants of business model innovation**

Our research underscores the findings that the industry architecture dynamics are an important factor for the complex service provider's business models. Moreover, we argue that a complex service provider is heavily influenced by the characteristics and dynamics of the broader ecosystems it operates in (suppliers, partners, indirect complementors, collaborators, regulators and customers)<sup>2</sup>. Authors have already pointed out the importance of the structure and the power distribution within the ecosystem and established the role of competition between peer companies, complementors and owners of the co-specialized assets on the value appropriation from innovation. Notwithstanding the importance of these findings, our data shows that the structure and the power distribution of the ecosystem may have an even more profound effect, by determining a firm's potential to innovate their business model and create value. More specifically, we find that power and position that the customer(s) take in the ecosystem determines the potential for business model innovation and value creation of complex service providers.

For example, train manufacturers have been changing their business models in accordance with several regulatory changes that have been redefining firm boundaries in the rail transportation over the last decades. The UK Department for Transportation (DfT), that represents the public as the final customer of the ecosystem, has created a rich ecosystem with a diverse set of players from a nationally owned organization, with the aim of stimulating competition and encourage investment and innovation. DfT continues to reshape the rail ecosystem by deciding what to procure from which market player. For example, they recently invited manufacturers to offer train leasing as a part of their service offering and are awarding manufacturers longer service contracts. Another example can be found in the purchasing

---

<sup>1</sup> Dimensions of business model – content, structure and governance (Amit and Zott 2001) were found to map well as the dimensions of value delivery, in particular.

<sup>2</sup> We introduce the term 'ecosystem' to signal broader environment that firm operates in, including the firms that the provider doesn't interact with but may influence his value creation or value appropriation, rather than just direct competitors, suppliers and customers within the direct value chain.

practices of dominant clients. The UK Ministry of Defense and local councils in the UK decide what criteria to procure on and whether to stimulate innovation or cost competitiveness by drafting their procurement tenders. Equally, they can decide whether to stimulate competition or promote partnership between service providers).

Besides the intended influence of the clients by designing the rules of the game, several characteristics of the client may have an unintended, yet strong impact on the business model innovation potential. Complex organizational structures with multiple internal stakeholders make it easy for inconsistent incentive systems to develop within the client organization. This can limit the ability of the firm to propose the value proposition that is right for the client organization overall and may create a tendency to satisfy the most important stakeholder in the decision making process within the client organization. A likely follower of complex structure is a complicated decision-making process. Besides slowing down the purchasing process, multi-party decision-making seems to promote inertia in purchasing behavior from the client side and limits the likelihood to adopt innovative value propositions.

For example, respondents from the defense sector have been reporting that the purchasing organization within the Ministry of the Defense may have different interests than the end customer – the armed forces. Even if suppliers may offer an innovative and competitive service that would optimize the value to the armed forces and Ministry of the Defense overall, the purchasing organization may be driven to shape purchasing decisions on the basis of their own incentives (e.g price competitiveness), as well as their own organizational interests (e.g. external providers often compete against departments internal provision of service). In that respect, competition between the service provider and a stakeholder within the client organization can appear.

Admittedly, the importance of the customer's role also seems to depend on the nature of the market and on the customer concentration. In the case of service markets, where the customer plays an active role in the delivery of the service or, put differently, co-creates service, the customer plays an important role at the strategic as well as operational level. Hence, all of our respondents rank client responsiveness and collaboration in the definition of the value proposition as well as the delivery as crucial. In the markets where one customer or decision maker dominates, such as utilities, transportation and defense, the power installed in the customer's role seems to be a particularly pronounced. While all our respondents underscored the importance of the customer - probably by virtue of participation in service markets, the respondents that were working in highly regulated sectors or sectors with a dominant client were more prone to emphasize this fact and to complain about the limitations they face with clients intentional practices or unintentional behavior.

**Proposition 0.** The structure and the dynamics within the ecosystem and the customer's role in particular, influence not only the ability of a service provider to appropriate value from the innovation, but also his ability to innovate and create the value in the first place.

### **Pervasive business model innovations of complex service providers**

While the ecosystem characteristics described earlier determine the potential for business model innovation, all the service providers we studied seem to respond in the same way, within the constraints imposed by the ecosystem, and more directly the client. Business model innovation of complex service systems manifests itself as a simultaneous quest for fit of the value proposition with client's activity system/organization and fit of the value delivery with provider's activity system/ organization.

### *Value proposition fit*

**Reconfiguration towards customer fit.** All complex service providers we studied have recognized that reconfiguring value proposition towards fit with the client's business model and activity system represents one of the imperatives of successful business model innovation. The content of activities that provider is accountable for is reconfigured and optimized in order to maximize the coverage of customer's functional need, or provision of a comprehensive system of all functionally related elements from the perspective of customer's activity system. The outcome provided is, therefore, maximized when the provider focuses on the complementarities on the customer side, internalizing the linkages among service activities to gain spillovers- complementarity and therefore higher value of the overall solution.

Firms would not offer services that are unrelated to the client's solution and don't fit in the client's business model, even though they would go far in offering services that are related to the solution, but unrelated to their own business model and competence base. In that sense, the consistency of a client's business model seemed to become a priority over the consistency within the provider's business model, even to the point that the provider would offer services that he doesn't have the competences for. There seemed to be a notable shift from thinking about 'what services we can provide' to thinking about solution configurations that make sense from the perspective of customer or what value proposition fits in the client's business model. This can be seen as a major turnaround from the 'core competence' configuration of the business model, whereby firms seem to be turning of the business model optimization lens from inside out to outside in (reader should note that this observation will be revisited within the discussion on value delivery system).

For example, a supply chain consultant we interviewed would offer to their client all supply chain services, including transportation, even though they recognized that their transportation capabilities were not competitive with other players in that sector. Hence, the scope of service activities offered - warehousing to procurement and transportation - would grow as long as there were linkages between these services from the client's perspective and the perspective of the solution embedded in customer operations. In this example, provision of warehousing and transportation is disconnected from the perspective of competencies required to administer either of the two, but from the perspective of the outcomes that they deliver they are strongly related - organizing transportation without managing warehousing where the goods are left proves to be difficult.

**Expansion towards customer fit.** Besides reconfiguring their value proposition to fit in the client's business model, complex service providers seem to be looking to accomplish this through the extension of their service offering and embracing more complete value propositions. An example of a significant extension of the value proposition would be a defense system provider that expands its value proposition from delivery of a standardized military aircraft to the 'guarantee for an air combat capability with certain technical specifications over 20 years'. In the later example, the defense solution provider takes responsibility for a design of the aircraft with certain specifications, responsibility for the availability of the systems through-life and all the services (e.g. maintenance, monitoring) that are necessary to vouch for such a capability.

By analyzing service offering extensions of our respondents, we isolated three modes for expansion towards these 'customer-oriented' solutions.

First, the provider extends the value proposition by expanding the scope of the activities he offers or adding layer over layer of services. Oftentimes, some of these 'new activities' for the provider are the activities that have been offered internally by the customer before (e.g.



through-life maintenance of the aircraft). For example, a logistics service provider that we interviewed started by offering basic warehousing services and gradually expanded the value proposition to cover complete spectrum of logistic services that the customer used to provide internally, but by adding more value through professional service provision.

Second, providers extend the timeframe of the value proposition, vouching to provide the activities that are needed over an extended period of time. Here, the value proposition changes from the transactional to the relational, leading to the higher proximity of both organizations. For example, an equipment manufacturer changes from maintenance of a train on ad-hoc basis ('when customer calls') to maintenance contract that spans several years.

Third, providers shift from providing services as activities or processes to guaranteeing the outcome of that service or the performance associated with the activities provided. Thereby, the value proposition is extended by guaranteeing performance associated with the activities provided. In the example of the defense manufacturer, instead of providing engine maintenance, provider offers power by the hour with defined levels of availability and reliability of the engine. For example, a supply chain consultant would guarantee a certain level of inventory combined with a guarantee for the availability of the stock rather than charging for hours spent on the transformation project.

By reconfiguring and expanding their value proposition, firms are internalizing complexity on behalf of their clients. Several types of circumstances lend themselves well to the provider's value extension. Firstly, clients are willing to pay to providers for the management of the multitude of services that are tangential to their own business (e.g. supply chain or IT management, property or asset management) and where a specialized service provider can provide this service more efficiently or effectively). Second, clients may outsource the service activities that are strategically linked to the providers' core offering. For example, several years after the UK rail privatization, train operators started outsourcing services to train manufacturers after acknowledging the competences required and the strategic linkage between equipment design and services (stated differently, they realized that the manufacturers are more likely to design good trains and spare parts once they are responsible for servicing and functioning). Thirdly, clients realized that they could reduce their risk exposure and smoothen the revenue streams by procuring long-term contracts or contracting for the outcomes.

On the other hand, providers would primarily offer client-consistent outcomes and encompassing solutions, in order to assume growth opportunities. Reconfiguring towards client-consistent solutions ensures more clients and better relationships with clients. Expanding the scope of service activities or changing the offering from service process to service outcome leads to the growth of revenues, while extending the length of the contracts assures future revenue flows. At the same time, having higher revenue streams and broader scope of service (that equals broader problem ownership) allows to invest and innovate value delivery, or innovate business model. For example, the provider of through-life defense system geared towards availability can afford to, and is incentivized to, conceive its design activities to optimize the lifetime use, rather than to decorate the product for sale to customer. Finally, the contract timeframe that the provider secures from the client has a significant impact on the innovative potential of the business model. Unlike in the case of product innovation where strong appropriability regimes, such as IP protection, secure innovators value appropriation, in the case of complex services, investments and innovations tend to be context specific (non-replicable) for different client) or easily imitable. In this case, the investments are made within boundaries of guaranteed revenue streams; the longer the service (contract) timeframe, the higher the expected revenue streams and longer the investment optimization outlook. This is particularly important when there are over-time externalities-where the investments that are made today can be recouped over longer period of time. For

example, rail manufacturers used to have 7-year contracts and now are contracting for 20-year periods. Given that the lifetime of the asset (train) is at least 20 years, they will optimize their investments to cover the entire lifetime of the asset, rather than optimizing servicing for 7 years and leaving the asset in suboptimal shape for the remainder of asset lifetime.

**Proposition 1.** Seeking long-term growth and innovation opportunities, providers of complex services are extending their value proposition by expanding the scope, time span and performance accountability towards the outcome of their offering.

### *Value delivery fit*

Besides changing their value proposition, providers can also change their business model by changing the way that the value is delivered. The change in the value delivery is often provoked by the change in the value proposition. For example, the defense provider that changes from selling a piece of defense equipment towards the provision of through-life defense system geared towards availability will optimize its value delivery activities, such as equipment design, towards lifetime use (e.g. increasing investments in durability and availability of equipment) rather than to decorate the product for sale to customer.

While provoked by the changes of the value proposition, value delivery changes do not have the same purpose as the changes of value proposition have. Instead of looking for a fit with the client's business model or with fit with value proposition itself, the purpose of the value delivery changes seems to be to achieve the fit with the internal provider's business model and activity system that might have been distorted by some changes in the value proposition that bring inconsistency, such as the adoption of service activities that the provider has no competencies for. Faced with the imperative of value proposition consistency with customer activity system on one side and consistency of his own activity system for the effectiveness and efficiency of value delivery, providers seem to be turning to the ecosystem to cover this gap. Referring back to the example of the supply chain provider, becoming accountable for the transportation services that he cannot competitively deliver creates a competence gap.

In order to achieve this internal fit, the provider doesn't necessarily follow the same approach as with the value proposition. While on the level of the value proposition we see, both, tendency to reconfigure (towards the internal business model fit) as well as to extend the scope, on the value delivery side we see only the tendency to reconfigure. The tendency to extend is either not present or inverse may be the case- a provider starts to rely more on the ecosystems to deliver service activities that they are not best placed to deliver. With respect to the decisions on how to configure their value delivery process, providers seem to be governed by four key principles:

On one hand, firms seem to maintain within their activity system complex activities where they hold substantial competences or they are looking to develop competencies in the future. For example, ICT consultancy concentrates on a design of business process model, development of appropriate ICT architecture, while water utility retains all activities related to planning of water infrastructure, including the effects of climate change. Firms also seem to maintain within their activity system activities that are strategically linked to their core activity bundle. For example, ICT consultancy will continue to produce standardized products- such as mainframes- when they are necessary 'entry ticket' for the provision of through-life support and consulting.

On the other hand, providers are liaising with the ecosystem partners to offer complex activities that are far away/ disconnected from provider's core activities and competences. For example, water utility partners with construction expert firms on design and delivery of complex water containers, while supply chain consultancy partners with a software designer

to develop state of the art software for supply chain and logistics. Further to that, providers continue to outsource simple service activities to more competitive markets in order to leverage competitive forces in other parts of the value chain. For example, facility maintenance provider outsources cleaning services, logistics service provider outsources transportation, and train manufacturer outsources painting, logistic providers outsource transportation. Becoming accountable for the transactional services on behalf of the client becomes viable only if these services are linked strategically to other services provided by provider and/or in the case that provider can leverage the purchasing scale on behalf of the client. The example of supply chain consultancy offering transportation services bares characteristics of both.

Partnering within the ecosystem is particularly interesting in the cases where the value proposition significantly expands. In these cases, the scope of the value content and the scope of problem ownership that is under control of the provider is very broad and allows for novel types of value delivery configurations. One option is to change the content of the activities (Amit and Zott 2001). For example, facility maintenance provider who contracts on safety of the building rather than on a 24hour security guard may decide to hire security systems provider to install security cameras instead. The other option is to change the structure of the business model (Amit and Zott 2001), by assigning (same) activities to better-placed ecosystem partners. Outsourcing surveillance of key facilities to a specialized security firm would be an example of partnerships optimization.

It is instructive to elaborate on the difference between partnering and outsourcing, as two alternative governance mechanisms (Amit and Zott 2001) or more specifically styles of transacting. According to the respondents, outsourcing relationships presume a more client-provider relationship with transactional governance mechanism and strong notion of price negotiation. More specifically, an outsourcing firm looks to stimulate competition in the downstream market and designs a one-time agreement to procure delivery of a certain service activity. Partnering, on the other hand, assumes more relational posture of the provider, whereby provider looks to develop a relationship with the other ecosystem partner. Governance mechanisms, in this case, tend to be broader and longer and the provider takes interest in the long-term prosperity of the ecosystem partners. Some of our respondents have warned of mistaking partnership for outsourcing. For example, when service activities are taken as 'simple', provider may mistakenly assume that there is no risk associated with them and take the outsourcing position. Inducing high levels of competition may render sub-providers to shrink on the quality of the service and generate high risk. Given that the provider is accountable to the client for the provision of the overall solution, he will bare the consequences of a default. A recent incident in UK rail transportation illustrates that; (non-effective) outsourcing of rail infrastructure maintenance by the firm responsible for the infrastructure, resulted in the poor quality of tracks and finally a large-scale accident. The Court has fined the responsible firm for failure to provide safe infrastructure. As companies realize that service activities are rarely simple and risk-free, partnering seems to be becoming preferred governance 'style' for most of the ecosystem dealings.

Whereas firms are generally looking to increase their accountability spread, they tend to engage with the ecosystem partners and suppliers to optimize the delivery of the value proposition they vouch for. The interest in engaging with the ecosystem is to leverage the competencies of complementary providers and cost-competitiveness of the sub-suppliers to deliver the value proposition in a most effective and efficient way. Furthermore, while providers seem open to extend their value proposition accountability beyond the boundaries of their competence base, they tend to remain tight on their competence spread when it comes to the actual delivery. And while changing (extending and reconfiguring) value proposition assures growth and potential to innovate, reconfiguration of the value delivery is meant to

assure that the innovation potential is grasped and that the growth is profitable while maintaining that competence spread ‘tight’.

**Proposition 2.** Seeking long-term effectiveness and efficiency and fit within their activity system, providers of complex services are reconfiguring their value delivery by handing over service activities that are unrelated to their core competencies to specialized partners in the ecosystem.

### *Accountability spread*

Business models of complex service providers seem to exhibit two concurrent tendencies. On one side, manufacturer extends the value proposition to customer, by extending the scope, timeline of the value proposition and its performance effects, seeking to offer solution or outcome that has a functional fit within customers activity system. On the other side, manufacturer seeks to optimize his own activity system by leveraging the ecosystem to provide that value more effectively and efficiently. While becoming accountable for more complex value propositions is the avenue to grow and innovate and partnering helps to deliver that value more profitably, the two trends also imply higher problem ownership and risk exposure that we label as accountability spread.

Accountability spread can consists of different sources of risks and uncertainties. We find that, to start with, operational risk is associated with the ability to deliver promised good and service. Signing the contract to deliver certain service, even a simple maintenance, obliges customers to have access to specialized resources (e.g. skilled mechanics or spare parts). Financial risk appears with retained ownership of asset. For example, train manufacturers are starting to offer trains as a service charged on ‘per day’ basis instead of selling the train. The change from selling to leasing seems to imply two risks: risk of volatility in financial markets and cost of borrowing and the risk of miscalculation of residual value (e.g. in the car markets in US, a trend to lease resulted in systematic under-pricing of leasing agreements, leaving manufacturers-car owners with worthless assets). When provider changes from delivering a service as a process (e.g. warehousing activities) to service as an outcome (reduced inventory levels with good availability), they inevitably embrace performance risk, as the inability to meet certain performance targets, such as availability implies facing penalties. By changing the business model and redrawing the firm boundaries, provider also faces risk from incentive distortion. For example, offering maintenance directly implies reduced product replacement sales, as the purpose of effective maintenance is to extend product lifetime. In the case of selling versus leasing, car manufacturers have realized that they cannot incentivize their teams to account for long term risks- analysts who were setting prices for leasing contracts would face big pressure from salesmen to reduce their prices, while the penalty for understating the price would only be faced a number of years later and not necessarily by the same analyst or salesmen. In addition, several risk factors can perpetuate if they have the same underlying source, causing a factor of systemic risk to be considered. Finally, for the value propositions that span extended periods of time, all these risks are multiplied with the general uncertainty, or a dynamic risk factor.

On the slide of the value delivery system innovation, opening to the ecosystem to deliver value proposition exposes clients to a number of ecosystem risks. A provider is exposed to the operational risks of the ability to deliver value by its ecosystem: partners, suppliers and even client, who oftentimes acts as an active participant in the delivery of service. These risks can, respectively, be labeled as partner, supply chain and client exposure risks. Besides operational risks, these can also figure as dynamic risks. For example, guaranteeing capability of a complex piece of equipment over 20 years assumes that all the spare parts will be available 20 years from now, or stated differently, that all spare parts sub-suppliers will still exist and

produce these spare parts, even if the given model of the equipment has been discontinued and the production is not economical.

Another aspect of operational risk is provider's ability to manage different delivery cycles across the ecosystem. For example, client may operate along the 3-year election cycles or have a different delivery regime depending on different circumstances (e.g. war time versus peace time in the defense sector). The provider that is accountable for the delivery of the overall solution needs to have the ability to synchronize client's cycles with his own and ecosystem cycles.

Finally, the reconfiguration of the value delivery may lead to the distortion of the incentives that provider may not be aware of. For example, client, a train operator for example, might be less interested in the wear and tear of the train, if the train designer is responsible for through-life provision of a functional train. Furthermore, a lack of incentives may also come from the ecosystem participants that provider does not directly relate to. In another rail example, the train manufacturer that commits to a train delivery within a certain timeframe may find himself held back by the infrastructure operator that assigns the times for testing of new trains.

**Proposition 3.** Expansion of the value proposition accountability and reconfiguration of the value delivery system towards increased involvement of the ecosystem leads to higher exposure of service provider to different sources of risk, jointly labeled as accountability spread.

## **DISCUSSION: CAPABILITIES THAT UNDERPIN BMI PERFORMANCE**

### ***Capabilities underpinning value proposition***

While all the service providers we studied had a general tendency to reconfigure and extend their value proposition, the process they needed to go through to accomplish this didn't seem to be a given for the firms and their ability to do so seemed to vary. The possession of three types of skills seemed to discriminate between respondents' positive and negative experiences with value proposition extensions.

**Understanding client's business model.** The ability to understand how the business model of the client organization and adopt the value proposition for the client fit was the condition *sin qua non* for the reconfiguration and the extension of value propositions. The most successful firms, in this respect, would excel in their 'institutional' competencies or the capability to understand how client's business model, organization and ecosystem work. These competencies proved to be important with respect to designing the adequate value proposition that fits in the client's business model. As one of the successful support service providers would communicate in their annual report: "Currently, public spending cuts are affecting some areas more than others and we are working with our clients to provide solutions to the way services are provided; rethinking how we can still add value without compromising quality by offering a multi-service approach to meet the needs of their communities". Equally important was to understand client's ecosystem constraints and institutional dynamics and satisfy key stakeholders within the client organization. For example, local councils' purchasing behavior is somewhat constrained by the 3-year long election cycles and the purchasing and tendering guidelines set on national and even European level. A support service provider that we have interviewed offered us an extensive explanation on how his organization is organized to offer the value propositions that honor those constraints.

**Demonstrating value of the value proposition.** Firstly, given the intangible and complex nature of service offering, intangibility makes it difficult for a client to evaluate the value of the offering and providers need to possess specialized capabilities to demonstrate value to their customers. Ability to demonstrate this value by means of data, proxies, etc. and/or is essential to persuade customer about the *value of the service offering*. For example, a representative of the supply chain consultancy underscored the necessity to educate their client to about the merits that certain operational performance attributes have for their financial performance. For example, some clients needed to understand the advantages of a better spare parts availability and the impact that will have on their client satisfaction and therefore on the repurchasing behavior and ultimately on their P&L.

**Demonstrating the capability to delivery value.** Even when data demonstrates the value of the proposition, customer seldom needs to take a leap of faith that the provider will be able to deliver this value. While acquiring service as an outcome may protect against some defaults, complex services tend to have multi-faced value propositions some of which cannot be expressed in money-terms or contracted for (e.g. safety of an engine in the aircraft). When the providers' ability to deliver the value proposition was called into question, trust, relationship and reputation became instrumental. In this respect, providers that could demonstrate their ability to collaborate with customers and their ecosystem were of outmost importance.

#### ***Capabilities underpinning value delivery***

As the competencies to design client-coherent value proposition, demonstrate its value and the ability to deliver it is necessary to grow and innovate through value proposition expansion and reconfiguration, firm's ability to choose, retain and manage partner network determines significantly the competitiveness of the value proposition delivery.

Firstly, it is necessary for a provider to be able to isolate well service activities that they have competencies for from service activities that are best placed with partners. Understanding and planning for client's involvement in service delivery seems very important. Further to that, a choice of a partner or a supplier is crucial. In the innovation projects, for example, providers may want to engage with a specialized innovation consultancy to help them identify the right R&D partners. As mentioned earlier understanding the risks associated with service activity is instrumental to identifying the right partner or a supplier. The water utility that we talked to pays a lot of attention to the definition of partnering, definition of obligations by each partner and conceives partnering relationships even with standard service providers, such as sewage cleaning firms. The reason that underpins this decision is that the quality of provision of that service activity is crucial to the reputation for the water utility. Hence, the water utility will look to forge long-term relationships with a trusted partner and take interest in his long-term performance rather than driving the lowest price by inciting the competition in the market. As the previous example begins to illustrate, after finding the right partner, it is necessary to maintain the relationship. The innovation consultancy firm we studied talks about growing the ecosystem, whereby their responsibility is not only for the performance of their clients, but also the performance of their ecosystem partners.

Within the service delivery itself, it is necessary for the key service provider to coordinate across a number of partners and sub providers. Their ability to align the incentives of various stakeholders, to coordinate processes, to synchronize the cycles becomes crucial here (Davies 2004). For example, provider may needs to match customer's cycles and integrate across different cycles of provision. Integrator's ability to synchronize cycles across different partners is essential. For example, a defense service provider needs to a deliver value proposition that satisfies MOD's cost-effectiveness objectives during peacetime as well as to optimize for the effectiveness objectives during war. Given that conflicts are unpredictable, they would have a week's time to reconfigure the solution and re-deploy the value delivery together with the partners.

Finally, the ability to attract and work with reputed partners represents an important signal for the client with respect to the provider's ability to deliver the value. For example, one of the support service providers we studied would bring the representatives of IT consultancies to the negotiation table with the customer to demonstrate how they are planning to automate support processes that the client would hand over to them. Or as one of the firms we studied suggests in their annual report: "During the year we have concentrated on building a flexible resource model supported by strategic partners. This has enabled our information systems team to focus on developing the skills essential to our clients and our internal customers. ...."

### ***Capabilities underpinning accountability spread management***

As explained earlier, the provider needs to possess a set of skills to reconfigure and expand its value proposition and to reconfigure its value delivery. These competencies should provide him with the avenue for profitable growth- and hence competitive advantage- through attainment of innovation opportunities and leverage of the ecosystem for effectiveness and efficiency. Nevertheless, our research suggests that these capabilities may not be sufficient to sustain this competitive advantage over extended periods of time. Moreover, value proposition extension and partnering for value delivery may render the complex service provider vulnerable to the risks associated with rising accountability spread. While the lack of value proposition and value delivery capabilities may limit provider's ability to grow and become more profitable, they do not represent a particular hazard to its existence. The capability to manage accountability spread and ecosystem exposure is particularly important because the effects of negligence may appear with significant time lags- the situation that lends itself well to the organizational inability to bind risk-taking behavior with its consequences and penalize reckless risk-takers. Hence, lack of the ability to manage the accountability spread and ecosystem exposure can represent a serious hazard for the existence of the firm in future.

While deciding on the adequate accountability spread and ecosystem exposure seems crucial for the prosperity and even survival of the providers, there seems to be vast differences with respect to the attention that firms consecrate to this matter. For example, one of the informants reported that his firm uses structured engineering process to calibrate solutions that they offer and guarantees they are about to offer. Risk is not taken unless it is commercially viable to take the risk. On the other hand, one of the informants reported that his firm has suffered substantial profit loss by guaranteeing performance levels that turn out to be unattainable, mainly because of the unreliable supply chain.

Several capabilities seem to be instrumental to the provider's ability to manage the accountability spread and ecosystem exposure. Firstly, provider needs to understand well the implications of the value proposition that they are offering and the risks associated with it and in a similar fashion identify risks associated with handing over delivery of certain services by the ecosystem. In some cases, respondents that we have interviewed would be talking very explicitly about the characteristics of their value propositions, while in the other cases the intention to please the client and forge the relationship with them at any expense would undermine their interest to understand the risks associated. Second, the ability to measure the risk exposure was different across organizations. Some firms were investing in information technology and instruments, such as sensors or RFID tags, to have a better ability to assess and anticipate risk, while others would be relying on their 'gut feeling' cite Hitachi. Thirdly, some but not all respondents would talk about their efforts to stipulate the risks in the contracts and price them. Some would go as far as to understand the risks associated with client's involvement and would start to counter the cultural resistance and assigned penalties for the clients when their part of the value delivery wouldn't come through.

In short, management of the accountability spread represents the ability to understand the risk factors associated and, in the case of accountability spread, properly price them and in the case of ecosystem exposure, properly hedge and protect against them. Besides these capabilities, the information resources play a critical role in firm's ability to assess the risk exposure and the subsequent financial exposure and successful business model innovators are investing in the data analytics to access these information resources- necessary for innovation of the value delivery as well as for management of risk exposure.

## CONCLUSION

Our research concentrates on the business model innovations of complex service providers. We find that just looking at 'what a service firm does' and 'what resources & capabilities it has' is not sufficient to understand firm's business model innovations and its effects. To start with, we find that an assessment of the overall ecosystem is necessary to understand a firm's potential to innovate the business model and create value. Irrespective of the innovation potential handed over to the provider by the structure of the ecosystem and the nature of client's role in particular, we find that all providers of complex services that we have studied are looking to adopt new business models in order to remain competitive. These business model innovations seem to unfold through two fit-seeking movement. First, a provider seeks to reconfigure and extend the value proposition – which represents the content of his transactions with customer- to provide comprehensive solution or more encompassing outcome that demonstrates fit within customer's activity system. Second, the provider seeks to reconfigure their value delivery, by retaining only the activities that are core and/or strategically linked to their competence base, while handing over the rest to the ecosystem. The motivation for a provider to reconfigure and extend his value proposition resides on the growth and innovation opportunities that broader value propositions offer; on the other hand, he is looking to reconfigure the value delivery (of the extended value proposition) in order to retain consistency of his competence base and leverage the ecosystem capabilities to achieve higher effectiveness and efficiency. Third, we emphasize the gap that arises between a provider's *accountability* for the value proposition or a service outcome that he transacts for with a customer (e.g. 'power-by-the-hour' engine capacity) from the *activity system* that is put in place to deliver that value (e.g. maintenance activities, monitoring activities). The growing gap between *accountability* for the value proposition and the *delivery* of that value proposition also exposes provider to the rising levels of risk or increasing accountability spread.

While all the providers that we have studied exhibit similar business model innovation tendencies, their self-perceived success varies. What underlies the difference between the providers seems to be the level of capabilities for value proposition and value delivery innovations. In order to reconfigure and extend the value proposition, provider needs to possess skills to understand the nature of client's activity system and the specificities of its institutional design, skills to demonstrate (intangible) value proposition or the value of the outcome he provides and to demonstrate the ability to deliver that value. In order to reconfigure the value delivery of the (new) value proposition, provider needs to learn how to scope out the value delivery, understand which activities are best handed over to the ecosystem and then identify partners and manage the multiparty delivery of the value. Finally, a provider needs to understand and manage the risk associated with the rise of the risk exposure or the increase of the accountability spread, that happens as a consequence of value proposition and delivery changes. Understanding of the multi-dimensional sources of risk and the resources and capabilities that underpin the data generation and analytics that help assess the risk and manage it are indispensable in this respect. Furthermore, while the lack of capabilities for value proposition and delivery may impede provider's ability to improve his competitive position, the lack of capability to measure risk exposure will lead to attainment of



unsustainable competitive advantage that is poised with the risk hazards that appear at the later stage and may even threaten a company's survival.

Our research aims to contribute to the growing stream of literature on business model innovation by shedding light on business model innovation patterns that appear in the context of providers of complex services. We also hope to make a contribution by interfacing two prominent views on what business model innovation represent; more specifically, our data seems to support the treatment of a business model construct as a combination of value proposition and value delivery elements (Teece 2010, Johnson et al. 2008), while at the same time interpreting value proposition as the content of transactions with customer (Amit and Zott 2001) and value delivery system as the activity system that can be described as content, structure and governance of the activities (Zott and Amit 2010). Finally, we attempt to link business model innovation with industry architecture stream of literature that offers a more 'macro' view of the industry or ecosystem that shapes potential for value creation and value appropriation properties of business model innovations of participating firms (Jacobides 2006). Furthermore, we hope that our research helps complex service providers and other decision makers (e.g. regulators and clients) understand and drive business model innovation within their ecosystems. Besides offering them a framework for understanding business model innovation in the complex service context, we hope that our discussion on the underpinning capabilities for business model innovation offers some insights on the success factors and caveats of innovating a business model.

Finally, our study has a number of limitations and also leaves a number of open questions that may well be the source of further research. Firstly, we perform a qualitative assessment of the business model innovations that firm attempt to in order to create and appropriate value. While we provide some anecdotal evidence for the capabilities needed to achieve these business model innovations, we do not quantitatively measure their impact on firm performance. Empirical analysis would be best placed to answer these questions. From the standpoint of the theoretical contribution, we concentrate on the value provision and delivery, and in particular content of the value proposition and content and structure of the value delivery. On the other hand, we provide little evidence concerning the innovations of value capture mechanisms and governance mechanisms, beyond signaling the importance of value demonstration of value proposition and governance styles of value delivery. Further, we look into the direction that firms' take while innovating their business models. Additional research on the nature of their innovation trajectory and 'how' they go about to innovate their business models along these directions would be useful. For example, distilling the drivers, enablers and impediments of innovation process seems very relevant from this perspective.

Finally, broader analysis of the ecosystem- including the direct assessment of clients and partners' business models would be a promising avenue for future research. Perspective on other participants would not only allow us to enrich the understanding of the providers' business models, but may also give us a perspective of the ecosystem-level business model. Our initial results in this area suggest that ecosystems – especially the regulated ones, such as rail transportation, water utilities and energy sector- seem to be going through (active) reconfiguration of their activity systems and boundaries. Ecosystems seem to be changing to optimize effectiveness by maximizing competency level, level of the investments and innovativeness and efficiency- or have the most competent or price competitive/efficient service provider on the job. While in competitive ecosystems (with high competition levels in each of the ecosystem positions/roles) this process goes by mutual adjustments through the market mechanism, in the ecosystems that suffer from some sort of market failure the player with most power (e.g. a regulator or a dominant client) actively influences the ecosystem by reconfiguring the institutional design or 'who provides what' service. In these cases, the coherence of the incentives and innovation promotion and protection mechanisms seem to be very important.

## REFERENCES

- Amit, R. and C. Zott (2001). "Value creation in e-business." Strategic Management Journal **22**(6-7): 493-520.
- Boston Consulting Group, B. (2009). Business Model Innovation: When the Game Gets Tough, Change the Game.
- Casadesus-Masanell, R. and J. E. Ricart (2010). "From Strategy to Business Models and onto Tactics." Long Range Planning **43**(2-3): 195-215.
- Chesbrough, H. (2010). "Business Model Innovation: Opportunities and Barriers." Long Range Planning **43**(2-3): 354-363.
- Chesbrough, H. and Rosenbloom, R.S. (2002). "The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spin-off companies." Industrial and Corporate Change, 11(3), 529-555.
- Davies, A. (2004). "Moving base into high-value integrated solutions: a value stream approach." Industrial and Corporate Change **13**(5): 727-756.
- Gambardella, A. and A. M. McGahan (2010). "Business-Model Innovation: General Purpose Technologies and their Implications for Industry Structure." Long Range Planning **43**(2-3): 262-271.
- Institute for Global Value, I. (2008). The Enterprise of the Future. IBM Global CEO Study, IBM.
- Institute for Global Value, I. (2010). Capitalizing on Complexity. IBM Global CEO Study.
- Jacobides, M.G. (2009). "Don't let this crisis go to waste!" Business Strategy Review, 20(3), 70-75.
- Jacobides, M.G., Knudsen, T., and Augier, M. (2006). "Benefiting from innovation: Value creation, value appropriation and the role of industry architectures." Research Policy, 35(8), 1200-1221.
- Johnson, M. W., C. M. Christensen, et al. (2008). "Reinventing Your Business Model." Harvard Business Review **86**(12): 50-+.
- Kvale, S. (1996). "InterViews: An introduction to Qualitative Research Interviewing." London: Sage.
- Magretta, J. (2002). "Why business models matter." Harvard Business Review **80**(5): 86-+.
- Pisano, G.P. and Teece, D.J. (2007). "How to capture value from innovation: Shaping intellectual property and industry architecture." California Management Review, 50(1), 278-296.
- Teece, D. J. (2010). "Business Models, Business Strategy and Innovation." Long Range Planning **43**(2-3): 172-194.
- Teece, D.J. (1986). "Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy." Research Policy, 15, 285-305.
- Zott, C. and R. Amit (2007). "Business model design and the performance of entrepreneurial firms." Organization Science **18**(2): 181-199.
- Zott, C. and R. Amit (2008). "The fit between product market strategy and business model: Implications for firm performance." Strategic Management Journal **29**(1): 1-26.
- Zott, C. and R. Amit (2010). "Business Model Design: An Activity System Perspective." Long Range Planning **43**(2-3): 216-226.

## TABLES

TABLE 1

<b>Code</b>	<b>Ecosystem /client characteristics</b>	<b>Service provider characteristics</b>
BTR	Rail ecosystem/ rail regulator & public	Train solution provider
HTR	Rail ecosystem/ rail regulator & public	Train solution provider
TST	Water utility/ water regulator & public	Water utility provider
STS	Energy & water utility/ regulators & public	Energy and water metering
MTG	Regional ecosystems (e.g. city councils)	Support services and outsourcing
VTF	Multiple ecosystems	Support services and outsourcing
BTT	Defense, UK Ministry of Defense	Defense solution provider
RTR	Defense, UK Ministry of Defense	Defense solution provider
ITB	Multiple ecosystems	Consulting, IT
SWT	Regional ecosystems (e.g. city councils)	Consulting, IT
NTS	Multiple ecosystems	Consulting, innovation
CTL	Multiple ecosystems	Consulting, supply chain

TABLE 2a.

<b>Code</b>	<b>Value proposition</b>	<b>Value delivery</b>	<b>Accountability spread</b>
BTR	BTR evolves from one-time selling of trains to providing train product-service systems over 7 year period with defined standards of availability and reliability.	BTR partners with the sub-suppliers to be able to guarantee spare parts provision over 7 years period.	BTR takes operational risk of being able to design adequate trains and provide service, performance risk of making trains reliable and available to agreed standards and dynamic risks of estimating the uncertainty over 7 years period.
HTR	HTR evolves from selling of trains to providing train capabilities on the train-per-day base over 20 years, with defined standards of availability, reliability and energy efficiency.	HTR partners with the suppliers to be able to guarantee spare parts provision over 20 years period. HTR partners with the depot owners to obtain financial agreement for the train and depot (necessary for servicing) investments.	In addition to BTR's risk levels, HTR faces financial risk of retained train ownership (risk of money market conditions and residual train value under-estimate), performance risk of meeting the energy efficiency standard and dynamic risks of facing uncertainty over 20 years period.
TST	TST evolves from clean water provision 'till the doorstep' to the overall water network optimization to point of use (including sewages).	TST partners with construction engineering firms for development of complex water wells and with local sewage cleaners for efficient servicing of local sewages.	TST takes operational risk for the leakages of water infrastructure. TST takes ecosystem partner risk for quality of the sewage cleaning.
STS	STS evolves from offering a service of energy measurement, where the payment is based on the fee per energy 'reading' to real time energy data analytics with fee for the amount of high-quality data provided within a given timeframe.	STS partners with local hiring agencies to procure part-time blue-collar workforce for energy readings. SMS partners with IT service provider to develop IT platforms for energy data analytics.	In moving from 'pay per energy reading' to fixed pay for the amount of high-quality data within a timeframe, STS will take an operational risk of being able to provide data of high quality.
MTG	MTG evolved from highway construction services to the full-suit of support services for local authorities (e.g. infrastructure maintenance, recycling) together with the back office support activities over 4/5 years.	MTG partners with IT solutions provider to develop an IT platform to automate back office activities and develop data analytics services.	MTG faces operational risks of high span service provision against an agreed fix-priced deal. Performance risk against the agreed standards of service quality. Financial risk for investments in equipment for service provision and dynamic risk.
VTF	VTF evolves from providing ad-hoc maintenance and construction services to 30-year life care of buildings.	VTF partners with cleaning service providers to provide cost-competitive service and is looking to partner with construction services and property management services for developing broader solutions of building design-care-ownership.	VTF faces exposure to operational risk of providing complete suit of services for the building care, performance risk of service quality and energy efficiency, financial risk for mid-sized investments (e.g. heating) and dynamic risk over 30 year period.

TABLE 2b.

BTT	BTT evolved for providing defense equipment to defense product-service systems with through-life support.	In order to provide through-life support BTT had to change the nature of the relationship with their key suppliers from supplier-customer to partnering relationship.	BTT faces exposure to the performance risk (availability and reliability) as well as performance risk of attaining a certain cost target and dynamic risk.
RTR	RTR evolved from providing defense equipment to providing defense capabilities.	RTR had to conceive alliance with 2 other partners to ensure provision of the novel defense platform through life.	RTR faces exposure to operational risk of delivering the capability as well as the exposure to partner's operational risk.
ITB	ITB evolves from manufacturing of IT equipment to providing IT infrastructure solutions (e.g. computing capacity) and data analytics solutions and service.	ITB partners with software developers to provide infrastructure and with academia to develop data analytic capabilities.	ITB takes the operational risk of functioning and availability of the IT infrastructure, the performance risk quality of the data provided, financial risk for the retaining of the infrastructure and dynamic risk of overtime provision.
SWT	SWT is set to provide service suit of IT support and administrative services to the regional councils against defined performance levels over 10 years	SWT seconds (sub-employs) clients' employees to work on the implementation of the IT & admin support solutions.	SWT faces operational risk to deliver the support solution within a fixed fee agreement, incentive risk of working with hires from client and ecosystem exposure to operational risks of partners (who is client in this case)
NTS	NTS evolves from screening innovation landscape to working with their clients to forge the alliances with the identified innovation partners.	NTS relies on their clients 'fair partnering' to create value in two-sided markets.	NTS relies on the success of the partnering to realize full gains (performance risk, as well as the operational risk).
CTL	CTL evolved from providing warehousing to providing suit of over 20 supply chain management services against performance targets.	CTL partners with the software developer and auditing consultancy to develop specialized software for supply chain management. CL partners with transportation providers to provide cost-competitive transportation service activities on their behalf.	CTL faces partnering risk, operational risk for provision of each of services, performance risk against agreed standards of performance (e.g. inventory level and availability).

## **MOBILE LEARNING AND IMPROVEMENT OF ENVIRONMENTAL EDUCATION**

Vladimir Vujin<sup>1</sup>, Nataša Petrović<sup>2</sup>, Sonja Iščjamović<sup>3</sup>, Drago Vuk<sup>4</sup>, Marjan Senegačnik<sup>5</sup>

<sup>1,2,3</sup> Faculty of Organizational Sciences, University of Belgrade, Republic of Serbia

<sup>4,5</sup> Faculty of Organizational Sciences, University of Maribor, Republic of Slovenia

### **Abstract**

Mobile learning or m-learning, as a relatively new concept, has attracted the interest of educators, researchers and companies that are developing learning systems, but also creating and publishing instructional materials. In this paper we investigated the usage of integrative use of mobile technologies, data services and multimedia messaging systems for the increasing of students' practice of mobile technologies with the aim to improve their environmental education level in the context of sustainable development. Environmental education can be defined as learning to protect and improve environment in a systematic, planned and knowledge-based way during the whole human lifecycle. Also, environmental education has the task to spread awareness about basic characteristics of environment, its structures and relationships that tends to make a human who protects and improves the environment in a way that will ensure humans' existences now as well as in the future. It should also be pointed out that, although, mobile learning is currently applied in small scale of projects, this kind of learning is more useful as an education tool. Further on, mobile learning technology provides the potential for collaborative interaction and learning opportunities for geographically dispersed students and groups of students. Moreover, mobile telephones are small and familiar to students, they do not require technological training and do not intimidate users.

*Keywords:* Mobile learning, Environmental education, Sustainable development, Mobile technologies

### **1. INTRODUCTION**

Population growth and economic development have exerted a considerable impact on the Earth and the human race is coming face to face with a series of incompatibilities among natural resources, the environment and the global economy. There is a growing awareness of the necessity to reverse the process of environmental degradation and move toward sustainable way of living and business practices (GLRI, 2005). However, in spite of a burgeoning list of environmental impacts and ecological problems, many people, including the leaders of our most influential organizations, often think of them as detached from their everyday and business lives as well as behavior patterns. These facts demand a new concept of development – one which is sustainable and that takes meeting the needs and desires of every individual of the Earth into account (United Nations, 1972).

Significant changes must occur all over the world to ensure rational development – changes that will be directed towards an equitable distribution of the Earth's resources and that will more fairly satisfy the needs of all humans. This kind of development will also require a maximum reduction in harmful effects on the environment, the utilization of waste materials for productive purposes, and the design of technologies which will allow for such objectives to be achieved (UNESCO-UNDP, 1976).

Although several papers discuss organizations' environmental impacts, the precise meanings of this construct often remains unclear and ill-defined (GLRI, 2005). The one of the reasons for this ambiguity is that perceptions of environmental impact “differ depending on one's view of the environment and the components of the environment that one values” (Riha, Levitan, Hutson, 1996; p. 1). In this paper, we adopt a definition of environmental impact that focuses solely on issues related to the natural environment, rather than the triple-bottom line that also includes financial and social impacts. Further on, environmental impact is defined as the degree to which an organization's business processes, activities and operations positively or negatively affect the natural environment. Rather, environmental impact represents the consequences of the organization's actions in relation to the quality and cleanliness of air, water and soil and, more generally, to the short-term and long-term health of global ecosystem of Planet Earth.

On the other hand, necessary environmental sustainability has been defined as “development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs” (Our Common Future, 1987; p. 43), and is therefore linked to ongoing economic growth and development. Sustainability internationally it has become the principal aim of environmental policy and for many environmentalists it has become an appropriate vision of the future.

Further on, if patterns of resource use are unacceptable, and if sustainability is an appropriate vision of the future, by what means can society move from the present towards the vision? Also, global energy crises and environmental concerns have raised much global interest in energy efficiency practices. In both developed and developing countries these subjects are emerging as an important interdisciplinary area of professional and general education (Sam et al., 2000). Logically, a detailed and comprehensive response to this question may be quite difficult and complex, but a reasonable survey of the alternatives would likely include environmental education and learning (Diduck, 1999).

New electronic platforms for learning can be effective mediums for the deliveries of environmental education, because of their flexibility, timeliness, and breadth of access as well as their environmental sustainability. Bearing this in mind, mobile learning or m-learning (ML) has increasingly attracted the interest of educators, researchers, and companies that develop learning systems and publish instructional materials.

## **2. ENVIRONMENTAL EDUCATION**

Major ecological restoration will not be undertaken unless human society approves the goals and objectives of it and, in addition, has sufficient esteem for the restored ecosystems to protect their

integrity. Linking ecological restoration to sustainable use of the planet seems a promising way to foster society's interest in and acknowledgment of human dependence on natural systems. An increase in environmental and ecological literacy and education are essential to achieving this end, as is an awareness of the goals and conditions of sustainability (Cairns, 2000).

Consequently, environmental education has been placed at the centre of efforts to achieve sustainable development for the last several decades. International agreements such as Agenda 21, for example, have called for a 're-orientation' of all education towards sustainability (UNCED, 1992, Chapter 36). Agenda 21 follows the lead of a number of earlier policies, including The Belgrade Charter and documents arising out of the First Intergovernmental Conference on Environmental Education in Tbilisi, all of which contained similar calls for the promotion of environmental education programs as a way of raising awareness of environmental issues and halting environmental destruction.

More recently, the United Nations General Assembly also declared the 'UN Decade for Education for Sustainable Development' (2005–2014). The overall goal of the Decade is to integrate the knowledge and values of sustainable development into all aspects of learning, and to encourage changes in behavior which will lead to a more sustainable and just society. The nature of its implementation varies somewhat from region to region depending on the particular issues of concern and on the relationships between member states.

The reform of educational processes and systems is crucial for the creation of new development ethics (United Nations, 1972). The goal of environmental education is to produce a population aware of the environment and concerned about problems relating to this concept. Environmental education is based on the knowledge, skills, attitudes, motivations and commitments of individuals and collectives willing to work towards solutions of current problems and the prevention of new ones. This can be further defined as "learning to protect and improve the environment in a systematic, planned and knowledge-based way during the whole human lifecycle in order to spread awareness about basic characteristics of the environment, its structures and relationships that tends to make a human protect and improve the environment in a way that will ensure human existence now as well as in the future", (Petrović, 2010; Petrović and Milićević, 2006; Petrović and Milićević, 2007; UNESCO, 1998).

One key characteristic of environmental education is action, as environmental education has to promote human responsibility and, in doing so, encourage learners to use their knowledge, personal skills, and assessments of environmental issues.

### **3. E-LEARNING AND MOBILE LEARNING IN HIGHER EDUCATION**

#### **3.1. E-learning**

E-learning (Electronic learning) is a complex system that includes distance learning, distance teaching, teaching materials in various electronic formats, individual and group learning processes, tutorial and interactive work.



Nearly every higher education institution has its own computing centre designed and constructed for its particular use and whose capacities become inadequate over time to meet the requirements of scientific research and educational activities, and are at the same time expensive to maintain. In every term (semester), laboratory practice and practical projects the students are engaged in require a hardware with specific software requirements and a large number of computers, mainly with a most advanced hardware. The key issue is how we can ensure the scalability and reliability of hardware and software applications of such information systems indispensable in lecturing and research and educational processes. The problem becomes especially alarming when such a system of e-learning is accessed by an increasing number students and lecturers (Rajkumar et al., 2008; Bertino, 2009).

The best answer that information technologies can give to users of higher education institutions and their computing centers is to develop an IT infrastructure model based on the cloud computing concept (CC concept). The CC concept and its characteristics can aid a higher education institution to improve its productivity and ease the management of various hardware and software resources necessary for a smooth flow of e-learning, scientific and research activities and students' projects (Caron et al., 2009).

The majority of higher education institutions face the problem of substantial costs, on an annual basis, to maintain and innovate the computing and software infrastructure. The CC implementation would reduce these costs to a minimum. The development of the computing centre for a higher education institution implementing the internal CC concept would enable all students and lecturers in the institution to have their own data and applications in a manner that is considerably more economic, safer and simpler to manage compared to the classic approach in using computing resources. The private CC offers the opportunity of data control and security, with the flexibility that requires continual changes in the present education, at low maintenance costs. Each user of the higher education institution would thus have his/her own virtual computer that is less expensive than the standard computer, and where the functionality and comfort of the virtual and the physical computers are identical. The students will access their virtual computers both from their higher education institution and from their home, even using their mobile phones.

The implementation of this system allows for constructing virtual classrooms with students sitting behind their computers at home or in their higher education institutions, enjoying the advantage of having the best lecturers and using the most advanced hardware and software. Such an electronic education model will enable students to work on a variety of projects which their teachers will be able to manage in a simple way and assign tasks to all students from one source. This would allow for collaboration between various higher education institutions throughout the country in the teaching, research and educational activities for the purpose of shaping a unique European higher education field and thus contribute to achieving the goals of the Bologna process (Dong et al., 2009).

### **3.2. Mobile learning**

The personal use of mobile telephones and related technologies has increased markedly since the late 1960s (Chen et al., 2000; Lundby, 2002; Roschelle & Pea, 2002). Within educational environments,

students frequently move from place to place (Muhlhauser & Trompler, 2002), but the mobile telephones they carry are immediately accessible throughout the day (Cereijo-Roibas & Arnedillo-Sanchez, 2002).

Mobile learning or m-learning (ML) has increasingly attracted the interest of educators, researchers, and companies that develop learning systems and publish instructional materials. This technology provides the potential for collaborative interaction and learning opportunities for geographically dispersed persons and groups (Bistrom, 2005; Edwards et al., 2002). Although currently applied in small scale projects, ML is potentially useful in more educational settings. Small and familiar to students, mobile telephones do not require technological training, do not intimidate users, and remain unobtrusive in classrooms (Nyiri, 2003). Current research has capitalized on these advantages with public discourse within disadvantaged communities (Ananny, Strohecker, & Biddick, 2004), delivering content (Hoppe et al., 2003) and supporting disadvantaged youth by teaching literacy and numeracy skills (Mitchell & Doherty, 2003).

Short message service (SMS) and wireless application protocols (WAP), two types of wireless data communication, have gained increasing global popularity, although their use in online education has been limited (Motiwalla, 2007). The common use of telephones and messaging for facilitating friendships and socialization (Taylor & Harper, 2002) has established a role for the mobile telephone as a means of collaborative learning.

Mobiles embody the convergence of several technologies that lend themselves to educational use, including electronic book readers, annotation tools, applications for creation and composition, and social networking tool.

As devices become more powerful, the possibilities for mobile are going to grow even more. It is now possible to deploy solutions across a growing numbers of platforms. And new opportunities continue to appear. Finally, the tools are becoming more powerful and easier to use. Providers are making sure that developed content can operate on a wide variety of platforms, and conversion tools mean content already developed can be more widely deployed.

The potential of mobile computing is already being demonstrated in hundreds of projects at higher education institutions. Mobiles allow very simple tools to be easily integrated into classroom activities with no need for involvement of IT or support staff. Twitter, a short-message microblogging service that is very easy to use on phones, is a good example, finding ever more common use as an in-class discussion tool. Students participate by sending messages to ask and answer questions or expand on thoughts.

Another simple tool, Poll Anywhere, turns mobiles into personal response systems, enabling teachers to quiz students, assess their understanding before, during, and after a lesson, and reveal patterns of thinking in the classroom.

The increasing availability of network access means that the growing capabilities of mobiles are available to more students in more locations each year. Educational institutions around the world are investing in

the infrastructure that supports mobile access, sponsoring programs that provide devices to students who do not already have them, and commissioning custom mobile applications to serve their communities. Mobiles are recognized as advantageous tools for learning and study, and mobile offerings are quickly becoming a selling point for prospective students considering educational options. The main objective of ML is that the students can get the knowledge from the centralized shared resources at any time and any where they like to read. ML is a system where one can learn through any source on topics of his choice without the need of storing everything in his device. Students can learn selected topics over mobile phone even they are in a small village or remote area. The topic might be Text based documents , audio and video files which will be buffered from the server to that mobile student user and downloaded in the mobile if the memory is available in the mobile (if the user wishes to do so). The student can read the documents, look at the video tutorials, listen to lectures or seminars and finally they can take up self assessments. This system helps to "Learn while you roam" and also education for everyone at any time or/and any space.

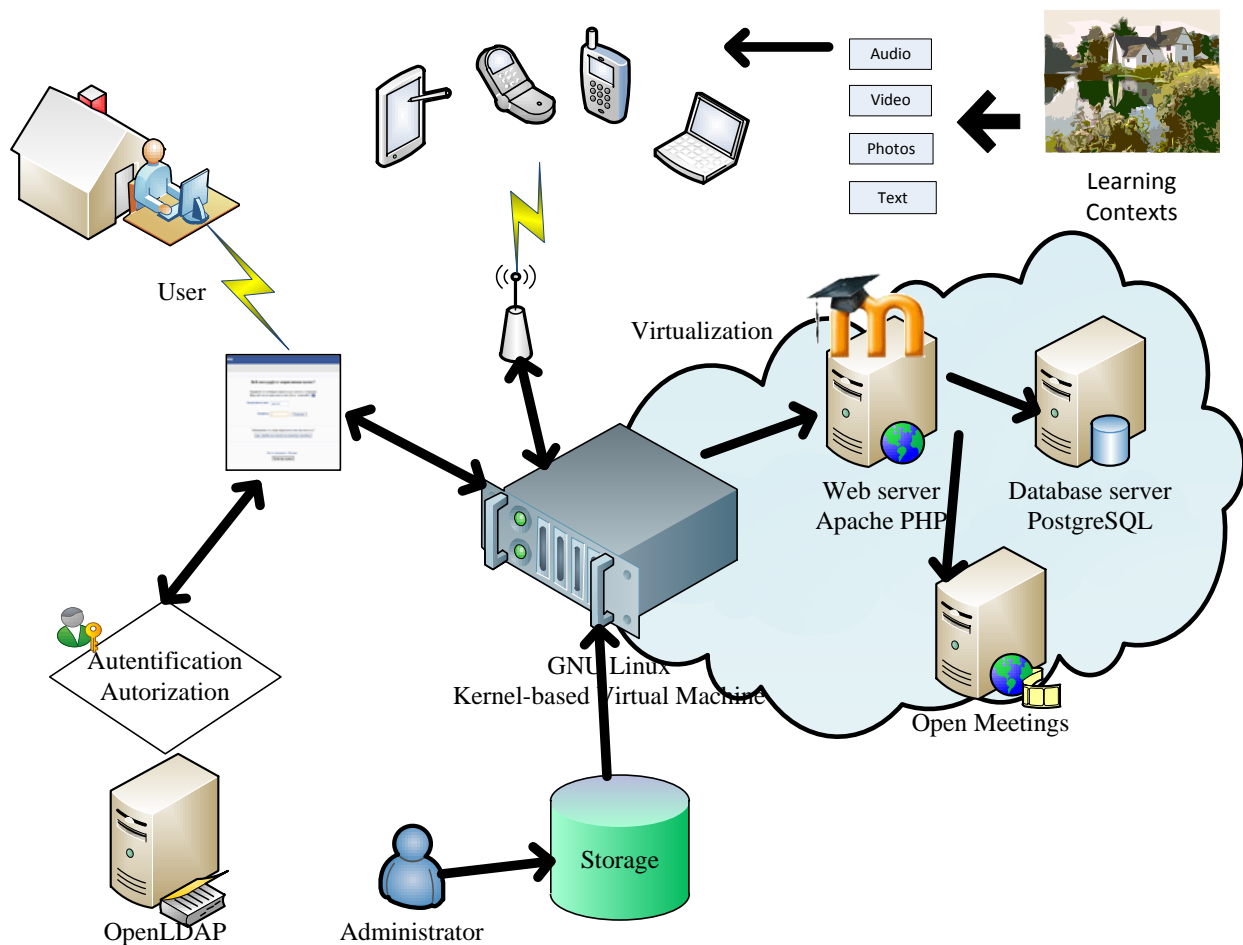


Figure1. E-learning and mobile learning in cloud computing environment

#### **4. INSTEAD OF CONCLUSION: MOBILE LEARNING AND IMPROVEMENT OF ENVIRONMENTAL EDUCATION**

The role of education in understanding, protecting, and solving environment problems has been universally recognized since 1970. Since 2000, researchers have considered the use of environmental education in schools, colleges, and universities (Iozi, 1989; Palmberg & Kuru, 2000; Shin, 2000). Newhouse (1990) suggested that attitudes and feelings toward other persons or objects are important factors in influencing human behavior. Researchers subsequently examined students' knowledge and attitudes towards the environments and methods for teaching environmental awareness (Attarian, 1996; Bryant & Hungerford, 1977; Howe & Disinger, 1988; Leeming et al., 1993; Shepard & Speelman, 1985). The relationship between attitudes toward the environment and human behavior, however, has been infrequently explored (Ma & Bateson, 1999). On the other hand, researchers found that outdoor experiences influenced students' attitudes (Driver & Johnson, 1984; Howe & Disinger, 1988; Knapp, 1996; Ramsey & Hungerford, 1989; Shepard & Speelman, 1985-1986). Matthews and Riley (1995) noted the use of concrete, environmentally positive, action-oriented experiences; a relevant context; long-term involvement; support; and follow-up.

This paper points the use of integrating mobile telephones, data services to increase students' use of mobile technologies and develop and improve their environmental knowledge and environmental awareness.

Two possibilities of such use of ML methodology in environmental education are given below.

*First:* Students could use mobile telephones to photograph local subjects, which include environmental situations and problems. Each student can forward the snapshots to the researcher-moderator via MMS, who will then number them and upload the selected photographs to the project's website. Students use mobile telephones to connect to the website and review the photographs displayed online. Students' comments can be forwarded to the moderator using SMS or electronic mail. Students review the photographs and suggest solutions for existing and overcoming environmental problems. By using mobile technologies (SMS, MMS, electronic mail, messenger) students could observe environment more carefully, increasing their awareness and environmental knowledge.

*Second:* Having in mind that many researchers in the field of technology-enhanced education have suggested the potential of SMS for communication and teaching (Markett et al., 2006) mobile technologies could facilitate collaboration and interaction, accessing, discovering, discussing and sharing environmental informations with use os SMS services. These are Push models which allow students or teachers to send out messages to learners enrolled in a specific lesson. Other uses of mobile phones include short answering, ranking, matching, filling in the blanks, true/false, multiple choice questions, etc. Additionally to these interactive benefits, SMS can be used to alert students about a certain environmental event or specific facts about ecology, environment, environmental protection etc. Use of SMS in education has been researched by several authors (Mellow, 2005; Cheuing, 2004) an it has been

concluded that students would have a significant improvement when they are instructed with the aid of SMS text messages.

## LITERATURE

- [1] Alsop G., Briggs J., Stone A., & Tompsett C. (2002). M-learning as a Means of Supporting Learners: Tomorrow's Technologies Are Already Here, How Can We Most Effectively Use Them in The E-learning Age?. Sheffield.
- [2] Ananny M., Strohecker C, & Biddick K. (2004). Shifting scales on common ground: Developing personal expressions and public opinions. *International Journal of Continuing Engineering Education and Life-Long Learning*, 14(6), 484-505.
- [3] Attarian A. (1996). Integrating values clarification into outdoor adventure programs and activities. *Journal of Physical Education*, 67(8), 41-44.
- [4] Attewell J., & Savill-Smith C. (2003). *Young People, Mobile Phones and Learning*. London: Learning and Skills Development Agency.
- [5] Bertino E. (2009). Privacy-preserving Digital Identity Management for Cloud Computing. *IEEE Data Engineering Bulletin*, 32, p. 21-27.
- [6] Bistrom J. (2005). Peer-to-peer networks as collaborative learning environments. Paper presented at HUT T-110.551 seminar on internetworking. Retrieved from <<http://www.sit.fi/johnny/collp2p.pdf>>.
- [7] Bryant C. K., & Hungerford H. R. (1977). An analysis of strategies for teaching environmental concepts and values clarification in kindergarten. (ERIC Document Reproduction Service No. ED 137 117).
- [8] Cairns Jr J. (2000). Setting ecological restoration goals for technical feasibility and scientific validity. *Ecological Engineering* 2000;15:171e80.
- [9] Caron E., Desprez F., Loureiro D. ,Muresan A. (2009). Cloud Computing Resource Management through a Grid Middleware: A Case Study with DIET and Eucalyptus, 2009 IEEE International Conference on Cloud Computing, pp. 151-154, Bangalore, India.
- [10] Cereijo-Roibas A. & Arnedillo-Sanchez I. (2002). Pathway to m-learning. In European workshop on mobile & contextual learning, Birmingham, UK.
- [11] Chen F., Myers B., & Yaron, D. (2000). Using handheld devices for TESTs in classes. Retrieved from <<http://www.cs.cmu.edu/pebbles/papers/CMU-CS-00-152.pdf>>.
- [12] Cheung S. (2004). Using mobile phone messaging as a response medium in classroom experiments. In Social science research network. .Retreived from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=906681](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=906681)

- [13] Diduck A. (1999) Critical education in resource and environmental management: learning and empowerment for a sustainable future. *Journal of Environmental Management* 1999;57:85e97.
- [1] Dong B., Zheng Q., Qiao M., Shu J., Yang J. (2009). BlueSky Cloud Framework: An E-Learning Framework Embracing Cloud Computing. In: *Proceedings of the 1st International Conference on Cloud Computing (CloudCom 2009)*, Beijing, China.
- [2] Driver B. L., & Johnson L. A. (1983-1984). A pilot study of the perceived long-term benefits of the Youth Conservation Corps. *Journal of Environmental Education*, 15(2), 3-11.
- [3] Edwards K., Newman M., Sedivy J., Smith T., Balfanz D. & Smetters D. K. (2002). Using speakeasy for ad hoc peer-to-peer collaboration. Paper presented at ACM 2002 conference on computer supported cooperative work (CSCW 2002), New Orleans, Louisiana.
- [4] GLRI.(2005). Globally responsible leadership. A call for engagement,<http://www.globallyresponsibleleaders.net/images/stories/grli/english.pdf>, The European Foundation for Management Development.
- [5] Hoppe H. U., Joiner R., Milra, M. & Sharples M. (2003). Guest editorial: Wireless and mobile technologies in education. *Journal of Computer Assisted Learning*, 19(3), 255-259.
- [6] Howe R., & Disinger J. (1988). Teaching environmental education using the out-of school settings and mass media. *ERIC/SMEAC Environmental Education Digest*, N.o 1. Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 320 759). Retrieved from <<http://www.m-learning.org/archive/docs/Cal03%20paper%20Ultralab%20Apr%2003.pdf>>.
- [7] Iozzi L. A. (1989). What research says to the educator. Part one: Environmental education and the affective domain. *The Journal of Environmental Education*, 20, 3-7.
- [8] Jeremić V., Iščjamović S., Petrović N. (2010). A one concept for measuring results of environmental education for sustainability: ecological footprint, 13th Toulon-Verona Conference, Organizational Excellence in Service, Coimbra, Portugal, September 2010.
- [9] Knapp C. E. (1996). Just beyond the classroom: Community adventures for interdisciplinary learning. Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools.(ERIC Document Reproduction Service No. ED 388 485).
- [10] Leeming F., Dwyer W., Porter B. & Cobern M. (1993). Outcome research in environmental education: A critical review. *Journal of Environmental Education*, 24(4), 8-21.
- [11] Living Planet Report 2010, (2010). WWF International, Editors: Pollard, D., Almond, R., Duncan, E., Grooten, R., Hadeed L., Jeffries, B., McLellan, R.
- [12] Lundby K. (Ed.), (2002). Knowmobile-Knowledge access in distributed training: Mobile opportunities for medical students. *InterMedia*, 5, University of Oslo.

- [13]Markett C., Arnedillo Sanchez I., Weber S., Tangney B. (2006). Using short message service to encourage interactivity in the classroom, *Computers & Education* 46 (2006) 280-293.
- [14]Matthews B. E., & Riley C. K. (1995). Teaching and evaluating outdoor ethics education programs. Vienna, VA: National Wildlife Federation. (ERIC Document Reproduction Service No. ED 401 097).
- [15]Mellow. (2005). The media generation: Maximise learning by getting mobile.ascilite 2005: Balance, Fidelity, Mobility: maintaining the momentum? .Retrieved from:[http://www.ascilite.org.au/conferences/brisbane05/blogs/proceedings/53\\_Mellow.pdf](http://www.ascilite.org.au/conferences/brisbane05/blogs/proceedings/53_Mellow.pdf).
- [16]Mitchell A. & Doherty M. (2003). M-learning support for disadvantaged youth: A mid-stage review. Retrieved from <<http://www.m-learning.org/docs/Cal03%20paper%20Ultralab%20Apr%2003.pdf>>.
- [17]Motiwalla L. F. (2007). Mobile learning: A framework and evaluation. *Computers & Education*, 49(3), 581-596.
- [18]Muhlhauser M. & Trompler C. (2002). Learning in the digital age: Paving a smooth path with digital lecture halls. In IEEE 35th Hawaii international conference on system sciences, Honolulu, Hawaii.
- [19]Newhouse N. (1990). Implications of attitudes and behavior research for environmental conservation. *The Journal of Environmental Education*, 22(1), 26-32.
- [20]Nyiri K. (2003). *Mobile communication: Essays on cognition and community*. Vienna: Passagen Verlag.
- [21]Palmberg I. E., & Kuru J. (2000). Outdoor activities as a basis for environmental responsibility. *The Journal of Environmental Education*, 31(4), 32-36.
- [22]Petrović N. (2009). *Ekološki menadžment, Fakultet organizacionih nauka, Beograd*.
- [23]Petrović N. (2010). Development of higher environmental education program, *Management - časopis za teoriju i praksu menadžmenta*, vol. 15, iss. 56, pp. 35-41, Faculty of Organizational Sciences, Belgrade.
- [24]Petrović N., Milićević M. (2006). Education For Sustainable Development, Collection of Works, 9<sup>th</sup> "Toulon – Verona" Conference, Paisley, Scotland, September 2006.
- [25]Petrović N., Milićević M. (2007). Higher good Environmental Education, Collection of Works, 10<sup>th</sup> "Toulon – Verona" Conference, Thessaloniki, Greece, September 2007.
- [26]Rajkumar B.,Shin Yeo C., and Venugopal S. (2008). Market-Oriented Cloud Computing: Vision, Hype, and Reality for Delivering IT Services as Computing Utilities, *Proceedings of the 10th IEEE International Conference on High Performance Computing and Communications*, Dalian, China, pp.5-13.

- [27] Ramsey J. M. & Hungerford H. (1989). The effects of issue investigation and action training on environmental behavior in seventh grade students. *Journal of Environmental Education*, 20(4), 29-34.
- [28] Riha S., L. Levitan, J. Hutson. (1996). Environmental impact assessment: The quest for a holistic picture, Third National IPM Symposium.
- [29] Roschelle J. & Pea R. (2002). A walk on the WILD side: How wireless handhelds may change CSCL. In G. Stahl (Ed.), *Proceedings of computer support for collaborative learning*.
- [30] Sam C. M. Hui T., Cheung K.P. (1999). DeveEVELOPING A WEB-BASED LEARNING ENVIRONMENT FOR BUILDING ENERGY EFFICIENCY AND SOLAR DESIGN IN HONG KONG, *Solar Energy* Vol. 67, Nos. 1-3, pp. 151-159.
- [31] Shepard C., & Speelman L. R. (1985-1986). Affecting environmental attitudes through outdoor education. *Journal of Environmental Education*, 17(2), 20-23.
- [32] Shin D. S. (2000). Environmental education course development for preservice secondary school science teachers in the Republic of Korea. *The Journal of Environmental Education*, 31(4), 11-18.
- [33] Taylor A. S. & Harper R. (2002). Age-old practices in the 'New World': A study of gift-giving between teenage mobile phone users. Paper presented to the conference on human factors in computing systems, Minneapolis, MN.
- [34] UNESCO. (1998). *Environment and Society: Education and Public Awareness for Sustainability*, Proceedings of the Thessaloniki International Conference, Paris: UNESCO.
- [35] UNESCO-UNEP. (1976). The Belgrade Charter, *Connect: UNESCOUNEP Environmental Newsletter*, 1 (1), 1-2.
- [36] UNESCO-UNEP. (1978). *Final Report Intergovernmental Conference on Environmental Education, Organized by UNESCO in Cooperation with UNEP, Tbilisi, USSR, 14-26 October 1997*, Paris: UNESCO.
- [37] United Nations. (1972). *Action Plan For The Human Environment*, United Nations Conference On The Human Environment, Stockholm.
- [38] World Commission on Environment and Development, (1987). *Our Common Future*. Oxford: Oxford University Press.



# APPROACHES FOR REDUCING MEDICAL ERRORS AND INCREASING PATENT SAFETY: TRM, QUALITY AND 5Qs METHOD

**Prof. Mosad Zineldin**, Linnaeus University- Sweden, [mosad.zineldin@lnu.se](mailto:mosad.zineldin@lnu.se)  
**MD. Student Jonas Zineldin**, Karolinska Institute – A Medical University- Sweden.  
[wesam.jonas@gmail.com](mailto:wesam.jonas@gmail.com)  
**Valentina Vasicheva**, Malmö University, Sweden. [vasicheva@yahoo.com](mailto:vasicheva@yahoo.com)

---

## Abstract

The goal in any country should be to deliver safe and high-quality health care to patients in all clinical settings. Despite the best intentions, however, a high rate of largely preventable adverse events and medical errors occur that cause harm to patients.

Medical errors are one of many Nations' leading causes of death and injury. In USA, between 50,000 to 100,000 people die in U.S. hospitals each year and 1 000 000 excess injures as the result of medical errors (MEs) and adverse events (AEs). 23% of Europeans argue that they have been directly affected by a medical errors personally or in the family. over 3000 people die in Sweden, 185,000 case are associated with an adverse event in Canada and almost 11% of total deaths in Australia are caused by medical errors. Mixed up test results, injuries suffered during childbirth, infections following surgery, and incorrect drug dosages are just a few of the harmful medical errors.

This means that more people die from medical errors than from motor vehicle accidents, breast cancer, or AIDS. One question is How many patients need to die before the media, government, county councils and care planners start to take serious actions to prevent such lose of people because of the medical errors?

Most of the published academic studies in the services sector have looked only at the link between services quality and satisfaction. Some studies have been conducted to investigate the link between technical and functional quality dimensions and the level of patient's safety, medical errors and patient satisfaction. Very few of the identified studies have empirically examined how the atmosphere, interaction and infrastructure might prevent the medical errors and impact overall patient's quality perception and satisfaction.

Total relationship management (TRM) emphasizes the totality and the holistic nature of a relationship which includes internal and external factors, functions and resources inside and outside any health care organization/institution. TRM includes 5 generic quality dimensions (5 Qs) and measurements.

5Qs will be used in this study to identify the shortcoming of a health care institution to reduce the medical errors which lead to the increase of the patient safety and physicians and patients relationship and satisfaction. The result can be used by the hospitals to reengineer and redesign their quality management processes and the future direction of their more effective healthcare quality strategies.

**Key Words:** Medical errors, Adverse events, patients, safety, 5 Qualities, TRM

## INTRODUCTION

The unaided human mind is incapable of performing consistently at the necessary level to provide optimal healthcare (Weed, 1997). Thus, human error is inevitable even for the best trained and qualified physician and other healthcare providers.

The Harvard and Australian studies into medical error remain the only studies that provide population level data on the rates of injuries to patients in hospitals and they identified a substantial amount of medical error. Medical errors are one of the Nation's leading causes of death and injury. A report published in 2000 by the Institute of Medicine (IOM) estimates that as many as 44,000 to 98,000 people die in U.S. hospitals each year as the result of medical errors. By 2004 the result was 195,000 die and 1,000,000 excess injuries by the medical errors. This means that more people die from medical errors than from motor vehicle accidents, breast cancer, or AIDS (Sexton et al 2000; Thomas et al, 1999; Weingart et al, 2000).

23% of Europeans argue that they have been directly affected by a medical error personally or in the family. 18% indicate that they or their family members have experienced a serious medical error in a hospital whereas 11% announces having been prescribed wrong medication (European Commission, 2006).

In Sweden, over 3000 people die each year as a result of medical errors (MEs) and adverse events (AEs) (SAS Health and Life Sciences blog, 2009). Mixed up test results, injuries suffered during childbirth, infections following surgery, and incorrect drug dosages are just a few of the medical errors that reveal it can be harmful to a patient's health to end up at a Swedish hospital (The Local, 2011). In Canada (2004) 185,000 were associated with an adverse event, 70,000 were potentially preventable. 11% of total deaths in Australia are caused by medical errors.

An investigation of a sample of 36 medical and health care institutions shows that medication errors were 19% of the doses (605/3216) in the typical hospital and skilled nursing facility. The major frequent errors were due to wrong time (43%), omission (30%), wrong dose (17%) and unauthorized drug (4%). 7% of the errors were considered potential adverse drug events (Barker et al 2002).

Systematic methods of patient safety and quality assurance in health care are still evolving in both developed and developing countries. Patient safety and good quality of care are considered to be the right of all patients and the responsibility of all staff within the hospital (Zineldin, 2006). The medical and health care sector have to cope with environmental pressures such as demographic changes and ageing of populations as well as emergence of new treatments and technologies and increased insistence on greater medical and health care in order to remain competitive (Ingram and December, 1999; Andaleeb, 1998; Lim and Tang, 2000). Not surprisingly, health care quality, patient safety and satisfaction constructs are of vital concern for health care organizations (Zineldin, 2006; Camgoz-Akdag and Zineldin, 2010).

Competitiveness among health care organizations also depends upon patients' satisfaction. Patients' satisfaction is created through a combination of responsiveness to the patient's views and needs, and continuous improvement of the healthcare services, as well as continuous improvement of the overall physicians-patients relationship.

Determining the factors associated with patient's safety and satisfaction is an important topic for the health care provider to understand what is valued by patients, to prevent medical errors, how the quality of care is perceived by the patients and to know where, when and how service change and improvement can be made.

Most of the published academic studies in the services sector have looked only at the link between services quality and satisfaction (e.g. Kelley and Davis, 1994; Bettencourt, 1997; Zineldin, 2000a).

Few studies have been conducted to investigate the link between technical and functional quality dimensions and the level of patient's safety, medical errors and patient satisfaction in the healthcare sector. None of the identified studies have empirically examined how the atmosphere, interaction and infrastructure might prevent the medical errors and impact overall patient's quality perception and satisfaction (Zineldin, 2006).

Total relationship management (TRM) is an approach developed by Prof. M. Zineldin (2000) emphasizes the totality and the holistic nature of a relationship which includes internal and external factors, functions and resources inside and outside any health care organization/institution. TRM includes 5 generic quality dimensions (5 Qs) and measurements (Zineldin, 2006). 5Qs can be used as a tool to identify the shortcoming of a health care institution, identify and reduce the medical errors which lead to the increase of the patient safety and doctors and patients satisfaction.

This research attempt to contribute to the previous academic studies and knowledge in quality management in medical and healthcare sector by at least two ways. First, we examine the causes of adverse events (AEs) resulting from healthcare to assist in developing strategies to minimize preventable patient injury. Second, we implement the new quality assurance model (5Qs) which is based on the holistic approach of TRM on patient-physician relationships and patient satisfaction. The expected outcomes are to:

1. Reduce the medical errors
2. Increase patient safety and achieve higher doctors and patients level of satisfaction

The result can be used by the hospitals to reengineer and redesign their quality management processes and the future direction of their more effective healthcare quality strategies.

### **Medical Errors (MEs) and Adverse Events (AEs)**

A medical error can be defined as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Errors include problems in practice; like time, operations, medication, products, procedures, and computer systems. A Medical Error (ME) can also be defined as an act of commission or omission that caused, or contributed to the cause of, the unintended injury. For errors of commission this will usually be the immediate morbid consequences of the error and for errors of omission this will usually be the continuation of, and consequences of, an existing morbid state that could have been cut short, or had a better outcome, if the error had not occurred. The term error as defined by Reason (1990) does not necessarily harm patients, whereas the term adverse event does imply harm. Measuring errors and adverse events is more difficult than measuring many other health care processes or outcomes because errors and adverse events need to be understood in the context of the systems within which they occur (Thomas and Petersen, 2003).

Medication errors can be defined as any error in the process of prescribing, dispensing, or administering a drug, and whether these had adverse consequences or not (Midlöv et al, 2005). Errors often occur when clinicians are inexperienced and new procedures are introduced. Extremes of age, complex care, urgent care, and a prolonged hospital stay are associated with more errors (Weingart et al, 2000).

Adverse events (AEs) is defined as an injury or complication which resulted in disability or prolongation of hospital stay caused by the healthcare received rather than by the disease from which the patient suffered. AEs are also defined as undesirable and unintentional, though not necessarily unexpected, results of medical treatment. An example of an adverse event is discomfort in an artificial joint that continues after the expected recovery period, or a chronic headache following a spinal tap. The AEs either occurred during the hospital admission, or during an earlier contact with healthcare services. Rothschild et al (2005) found that adverse events and serious

errors involving critically ill patients are common and often potentially life-threatening, and that failure to carry out intended treatment correctly was the leading category for the errors.

### **Medical Facts and Deaths Due to Medical Errors**

MEs and or AEs can occur at many points in the health care system, particularly in hospitals, clinics, outpatient, surgery centers, physicians private offices or clinics, nursing homes, pharmacies or patients' Homes. Errors can involve medicines, surgery, diagnosis, equipment and or lab reports. They can happen during the most routine tasks, such as when a hospital patient on a salt-free diet is given a high-salt meal.

A report published in 2000 by the Institute of Medicine estimates that as many as 44,000 to 98,000 people die in U.S. hospitals each year as the result of medical errors (Kohn and Donaldson, 1999). The death due to errors range from 230,000 to 284,000 per year which constitutes the third leading cause of death in the United States, after deaths from heart disease and cancer (Schuster et al, 1998). Brennan et al (1991) reported that adverse events in acute care hospitals in the state of New York occurred in 3.7% of the admissions. A subsequent analysis of the same data found that 69% of injuries were caused by errors. The Institute of Medicine (IOM) estimates that fully half of adverse reactions to medicines are the result of medical errors. Other adverse reactions—those that are unexpected and not preventable—are not considered errors (IOM, 2001). Also, public health researchers have estimated that only 10 to 20% of errors are ever reported.

In 2004 the result was 195,000 die and 1 million are injured by the medical errors in Canada. 185,000 were associated with an adverse event, 70,000 were potentially preventable. In Australia 11% of total death are caused by medical errors. The annual cost of measurable preventable medical errors that harm patients is estimated to be \$17.1 billion (Van Den Bos et al. 2011).

In Sweden there are 105,000 injuries each year or 300 per day due to errors in healthcare (The National Board of Health in Sweden, 2008). Some causes for the errors are incorrect drug prescriptions, lack of hygiene, late and/or incorrect diagnoses. Over 3000 of the injured people (who are someone's mother or father, sister or brother, grandfather or grandmother, child or grandchild) die every year because of the lack of appropriate treatment and deficiencies in care (SAS Health and Life Sciences blog, 2009).

A study conducted by Midlöv et al (2005) of 69 patient-transfers were included (34 patients were admitted to hospital whereas 35 were discharged from hospital) at two hospitals in southern Sweden (one university hospital and one local hospital) found that there were 142 medication errors out of 758 transfers of medications. Medication errors are more common when elderly patients are transferred between primary and secondary care. The patients in this study used on an average more than 10 drugs before, during and after hospital stay. On an average, there were two medication errors each time a patient was transferred between primary and secondary care. When patients were discharged from the hospital, the usage of a specific medication dispensing system constituted a significant risk for medication errors, indicating that specific system seem not to be a good instrument to reduce the number of errors in transferring data about medication.

According to Ask et al (2008), under the period 1997- 2004, there were 23 364 inpatient malpractice claims filed by Swedish patients treated at hospitals reporting 11 514 798 discharges, claims rate 0.2%. Claims rates varied significantly across hospitals; surgical specialties accounted for 46% of discharges, but 88% of claims. There were also large differences in claim rates for procedures. The authors suggest that systematic collection and analysis of patient-generated quality of care complaints should be encouraged, regardless of the malpractice compensation system in use.

According to a large investigation conducted by European Commission- special Euro barometer (2006), medical errors are perceived as a prominent problem in Europe. 47% (almost half) of the EU citizens believe that it is likely to encounter a medical error in a hospital in their country and

over 50% believe that improper treatment is likely to occur in a hospital in their country. 78% of European Citizens are well aware of the existence of medical errors because they indicate that they have at least sometimes read or heard about the errors.

The highest numbers of experienced incidents in hospitals are found in Latvia (32%), Denmark (29%) and Poland (28%) while errors in the medication prescribed by a doctor are the most frequent again in Latvia (23%) and Denmark (21%) but also in Estonia and Malta (18% each). Austria tops the ranking having both the fewest medical errors in hospitals (11%) and in medical prescriptions (7%). Incidents are reported to be fairly rare also in Germany and Hungary.

In Australia, research found out that 4-16% medical errors leads to death of the inpatients. Systems for monitoring and reporting error could provide the platform from which more detailed studies of the populations and subpopulations could develop (Weingart et al 2000). 16.6% of hospital admissions in Australia were associated with an iatrogenic patient injury classified as an adverse event (AE). This compares with the rate of 3.7% for AEs in the Harvard Medical Practice Study (HMPS). 50% of the AEs were judged to have a high preventability score (4 or more on a scale of 1-6 of increasing likelihood of preventability). The disability caused by these adverse events ranged from temporary disability (fully resolved in one month) in 46.6% of AEs, to death in 4.9% of AEs. Although recording AEs emphasizes only the "complications" of rather than the benefits derived from healthcare, AEs are of great significance to individual patients as well as to the whole healthcare system (Wilson et al, 1999).

In terms of health-care **costs**, the IOM report estimated that medical errors cost the United States about \$37.6 billion each year; about half this sum pays for direct health care (Frey, 2011). The national cost to the Australian healthcare system of just additional hospital bed-days as a result of the AEs identified in 1992 was over \$800 million dollars per year.

According to the Local (2011), the cost of economic compensation paying for harm and injuries done to almost 30 patients a day due to medical errors in the Swedish healthcare system has nearly doubled in the last decade and the costs of such claims are still rising. The most common types of injuries for which patients receive economic compensation are orthopedic injures such as broken bones which don't heal properly. The next most common claims are infections and surgical errors. The cost of compensation claims has risen from 231 million (\$34.2 million) to 420 million kronor (\$62.5 million) between 2000 and 2010.

## **SOME ERROR CATEGORIES**

### ***Human error categories***

Human error is a prominent cause of ME and AE. Wilson et al (1999) emphasizes the need for designing safer systems for care which protect the patient from the inevitability of human error and adverse events. These systems should provide new policies and protocols and technological support to aid the cognitive activities of clinicians. The authors reveal that 81.8% of the errors were associated with one or more human error categories and "Complication of, or failure in, the technical performance of an indicated procedure/operation" was the most frequent cause of AEs. Human errors associated with failure of cognitive function were the next most frequent cause of AEs. Some examples are failure to request or arrange investigation, procedure or consultation, and misapplication of, or failure to apply, a rule; or use of a bad or inadequate rule.

### ***Delay categories***

Delay in diagnosis leading to none, or only symptomatic treatment, and treatment delay when the diagnosis had been made contributed to 20.0% of AEs. The AEs with delay categories were judged

to have very high preventability (86%-90%) compared with the average (51.2%) for all AEs (Wilson et al, 1999)

### ***Treatment categories***

No or inadequate treatment are also contributing to high number of AEs. AEs in this category were shown to have much higher preventability than the average for all AEs.

### ***Investigation categories***

Clinical examination was reason for 10.7% of AEs. 78.6% of these AEs were because an investigation was not done, investigation being inappropriate (3.6%), or not acted upon (15.5%). Similar to other AEs that are attributed to cognitive failure, majority of these AEs were highly preventable.

## **Causes of Medical Errors and AEs**

The causes of medical errors are complex and not yet completely understood. Some causes that have been identified according Fery (2011) include the following:

Communication errors. One widely publicized case from 1994 involved the death of a Boston newspaper columnist from an overdose of chemotherapy for breast cancer due to misinterpretation of the doctor's prescription; the patient was given four times the correct daily dose. Other cases involve medication mix-ups due to drugs with very similar names. The Food and Drug Administration (FDA) has identified no fewer than 600 pairs of look-alike or sound-alike drug names since 1992.

Diagnostic errors. A misdiagnosed illness can lead the doctor to prescribe an inappropriate treatment. Errors in interpreting diagnostic imaging have resulted in surgeons operating on the wrong side of the patient's body. Another common form of diagnostic error is failure to act on abnormal test results.

The increasing specialization and fragmentation of health care.

Human errors resulting from overwork, stress, fatigue, burnout, sleep deprivation etc. Fatigue has been shown to increase error in doctors (Nocera, 1998). Also, sleep deprivation may have a much more significant role in human error in healthcare than the current work-load patterns pay heed to, but more research is needed.

A study published in the Journal of the American Medical Association in October 2002 found a clear correlation between higher-than-average rates of patient mortality and higher-than-average ratios of patients to nurses.

Manufacturing errors. Instances have been reported of blood products being mislabeled during the production process, resulting in patients being given transfusions of an incompatible blood type.

Equipment failure. Such as intravenous pump with a malfunctioning valve, which would allow too much of the patient's medication to be delivered over too short amount of time.

Poorly designed buildings and facilities. Hallways that end in sharp right angles, for example, increase the likelihood of falls or collisions between people on foot and patients being wheeled to an operating room.

Insufficient use of information technology to assemble the necessary information at the time of decision-making may increase error.

Yet another very important factor include the level of supervision provided to junior staff, and the pervasive effect of the culture of medical practice, which can unhelpfully portray error as individual failure or deviation from perfection (Leape, 1994).

During trauma resuscitation, surgical procedures, and treatment of patients in intensive care units it has been shown in many researches that poor teamwork and communication, and stress have been documented may increase AEs and MEs (Combs and Taylor, 1952; Santora *et al*, 1996; Helmreich and Schaefer, 1994; Donchin *et al*, 1995).

An investigation conducted by Sexton *et al* (2000), reveals that medical staff agreed that that error is important but difficult to discuss and not handled well in their hospital. It also reveals that medical staff seems to deny the effect of stress and fatigue on performance.

A low level of basic primary and hospital care, with few preventative services. Lack of knowledge about quality ideas, methods and results. Lack of skills in using the methods or in implementing programs and lack of training and professionalism for most health practitioners, who are not well supervised (Øvretveit, 2004)

## **QUALITY MOVEMENT**

Standards governing who could practice medicine date back to the first century AD in Egypt and in parts of India and China. In Europe efforts to license medical practitioners developed as early as 1140 in Italy and evolved into uniform educational standards, state examinations, and licensing in the nineteenth century (McGrew, 1985).

Although we would like to think that every health plan, doctor, hospital, and other provider gives high-quality care, this is not always the case. Quality varies for many reasons. Although quality is considered a critical determinant of safety and competitiveness, it is a complicated and indistinct concept and there is no single universal definition of quality in the literature. Recently, among health care researchers the greatest consensus has been achieved on the definition provided by Institute of Medicine (IOM):

*“ . . . the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”* (McGlynn, 1995).

In the USA the modern quality assurance movement in health care began in 1917, when the American College of Surgeons compiled the first set of minimum standards for US hospitals to find and eliminate poor care (Blumenfeld, 1993). This approach evolved into an accreditation process now managed by the Joint Commission on the Accreditation of Healthcare Organizations (De Geyndt, 1995).

Today's quality movement in health care draws on disparate roots in medicine and other industries. Medicine historically has taken a watchdog approach, relying on government licensing, professional credentials, internal audits, and, more recently, external inspections to maintain standards, solve problems and quality management. Other industries have adopted a different philosophy over the past 50 years; In the 1980s weaknesses in the inspection process, the persistence of poor quality, and the emergence of new management techniques in industry, together with rising costs, led health care professionals in developed countries to begin reassessing accreditation and standards-based quality assurance (Morgan and Murgatroyd, 1994; Roberts *et al*, 1990). US health care organizations began testing the industrial philosophies of continuous quality improvement (CQI) and total quality management (TQM) (Blumenfeld, 1993; Koeck, 1997). At the same time, the

hospital accreditation system expanded its focus from inspections to promoting quality improvement (Roberts et al., 1990).

Finally, there is often a substantial gap between average quality of care and the best that is available. The gap can consist of several elements: overuse, underuse, and misuse of medical care. Overuse includes such as excessive surgery and excessive use of antibiotics and many other therapies; Underuse is about the failure to apply. A Study conducted at major and minor teaching hospitals, as well as community hospitals showed that major teaching hospitals achieved better outcomes of care for treatment of acute myocardial infarction – not because of high-tech surgery, but because of the use of beta-blockers and aspirin (*Shine,2002*).

## **QUALITY ASSURANCE AND PATIENT SAFETY**

Assuring good health care quality and patient safety are ethical obligations of health care providers. Research is showing that good quality also offers practical benefits to patients.

Patient safety has become a global issue (Corrigan *et al*, 1999). As an indication of the rapid expansion of interest and work in this area, it recounted that an internet search for “patient safety” in February 2004 showed just over 500,000 results, while the same search in March 2005 revealed 2,680,000 results. To update that figure, in March, 2006, entering the term “patient safety” on an internet search engine returned 91,500,000 results! Patient safety agencies and organizations, government offices and staff in health care institutions, research programs, articles in scholarly and popular publications and general interest in the subject have proliferated.

Poorly delivered care can cause infections, injuries, and even death. Interviews with clients in Chile, for example, found that good-quality clinical services reduced clients’ fears, increased their confidence in the care received, and generated loyalty to the clinic (Vera, 1993). Patients are more likely to feel safely the medical and health care provider is friendly, if they were satisfied with services, and if they had been told about the advantages and side effects of the treatment methods. Many studies have found that poor medical care or if even the providers treat patients rudely dissatisfies patients, discourages them from seeking care and returning for services, and prompts them to switch physicians (Hall *et al.*, 1993; Lo *et al.*, 1994).

Even health care staff members derive greater personal and professional satisfaction from their jobs when they can offer good-quality care and can feel their work is valuable. Some studies argue that the most satisfying aspect of physicians’ jobs was helping people and the community recognition they received for it.

## **OVERALL PATIENT SATISFACTION**

Patient satisfaction theory has argued that patient satisfaction is an attitude which should be measured by the totaling of the subjective assessments of multidimensional attributes associated with the care experience (Linder-Pelz, 1982). Patient satisfaction is defined by Bernna (1995) as the appraisal of the extent to which the care provided has met an individual’s (patient’s) expectations and preferences. According to the physiological theories, patients’ evaluations of different situations are moderated by personal feelings of equity in the exchange, disconfirmation between desires and outcomes, individual preferences, and social comparisons (Alford, 1998; Klein, 1997). Satisfaction can also be defined as patients’ cognitive and affective evaluation based on the personal experience across all service episodes within the relationship.

In large amount of literature, satisfaction is also viewed as a state. Oliver (1993) proposes a framework that visualizes satisfaction as a state of fulfillment related to two dimensions:



reinforcement and arousal. “Satisfaction-as-contentment” describes low arousal satisfaction. On the other hand, high arousal satisfaction is defined as “satisfaction-as-surprise”, which can be both positive (delight) or negative (shock). “Satisfaction-as-pleasure” appears when positive reinforcement occurs. And finally “satisfaction-as-relief” results from negative reinforcement. In parallel, satisfaction is described in the literature as a process (Zineldin et al, 2011).

In patient-oriented health care, patients and their satisfaction are considered first and foremost at every point in the planning, implementation, and evaluation of service delivery (Edmunds *et al.*, 1987). Patients are the experts on their own personal circumstances and wants (Morgan and Murgatroyd, 1994; WHO, 1993). Patient preferences should guide every aspect of service delivery, from clinic hours to counseling techniques to contraceptive decision-making. Patients satisfaction is created through a combination of responsiveness to the patient’s views and needs, and continuous improvement of the healthcare services, as well as continuous improvement of the overall doctor-patients relationship.

### **TRM (TOTAL RELATIONSHIP MANAGEMENT) AND MEDICAL ERRORS**

Patient care and safety is a complex activity which requires that health and social care professionals work together in an effective manner. Much evidence reveals that these professionals do not collaborate well together (Scott *et al* 2009). Total relationship management (TRM) approach is created and developed by Zineldin (2000, 2004) and focuses on "totality" of the internal and external factors and functions inside and outside any health care institution or clinic, qualities and relationships. In the UK the National Health Service adopted a formal quality policy in 1991 and recognized CQI as the most cost-effective way to implement it (Morgan and Murgatroyd, 1994). While continuous quality improvement (CQI) focuses on industrial methods and TQM on management philosophy, TRM highlights the role of quality and patient service, the impact of the external environment on health care rules and performance, on relationships and networks, on communications and interactions with different actors. (Zineldin, 2000). TRM includes five different quality dimensions, i.e. quality of object, processes, interaction, infrastructure and atmosphere.

Information technology offers important opportunities to improve patient safety and contribute to better and continuous improvement of quality. The elimination of written clinical notes is an important achievement. These developments requires a total and a holistic view and full cooperation between all involved actors. It means that medical educators and health professionals should move from a 20th-century paradigm of the infallible physician to a 21st-century paradigm that requires that fallibility should be replaced by an approach to multidisciplinary problem solving, and the acquisition of knowledge must be associated with the commitment and understanding of the need for change (Shine, 2002, Zineldin, 2004, 2006).

Although TRM offers a possible way to improve collaboration, decrease medical errors and increase quality of patient care and safety, it is an unforgiving and very demanding process. One weak link and the whole effort can be wasted. Thus, making a quality product demand a lot of cooperation and coordination through the value chain of activities within an organization to produce value for customers. If the customer can be integrated into the product development process, through cooperation and collaboration in real time, an intense relationship can begin.

### **THE 5 QS MODEL AND MEDICAL ERRORS**

Zineldin (2006) has developed and empirically verified a new model to measure the quality of any product, service, or process. The model has been implemented to measure quality of higher education and quality of health care and patient satisfaction. The model consists of generic five

quality dimensions (5Qs) and it can be used as a tool to identify the medical errors and other shortcomings of a health care institution, identify and reduce the medical errors which will lead to the increase of the patient safety and doctors and patients satisfaction.

It is people, not accounting systems, computer terminals or trading agreements, who can interact or communicate effectively with each other in order to exchange values. Interaction and communication is a moderator between structural or behavioral conditions and their outcomes (e.g. satisfaction and commitment levels). Therefore, perceived quality of interaction and communication reflects a patient's level of overall satisfaction. The interaction process between the provider and receiver of a service is influenced by the atmosphere in a specific environment where they cooperate and operate. The 5 Qs model is more comprehensive and incorporates essential and multidimensional attributes which are missing in the other models like the infrastructure, atmosphere and the interaction between the patients and the health care staff. Figure 1 illustrates the 5Qs model and its constructs, where the Total quality (TQ) of the health care is function of Q1-Q5.

The 5 Qs model is applicable in a hospital, medical centre or private medical clinic atmosphere where the patient, physicians, nurses and other health care staff are operating. The atmosphere is influencing by the characteristics of the partners involved and the nature of the interaction itself. The atmosphere can affect the perceived service quality by improving it or by making it worse.

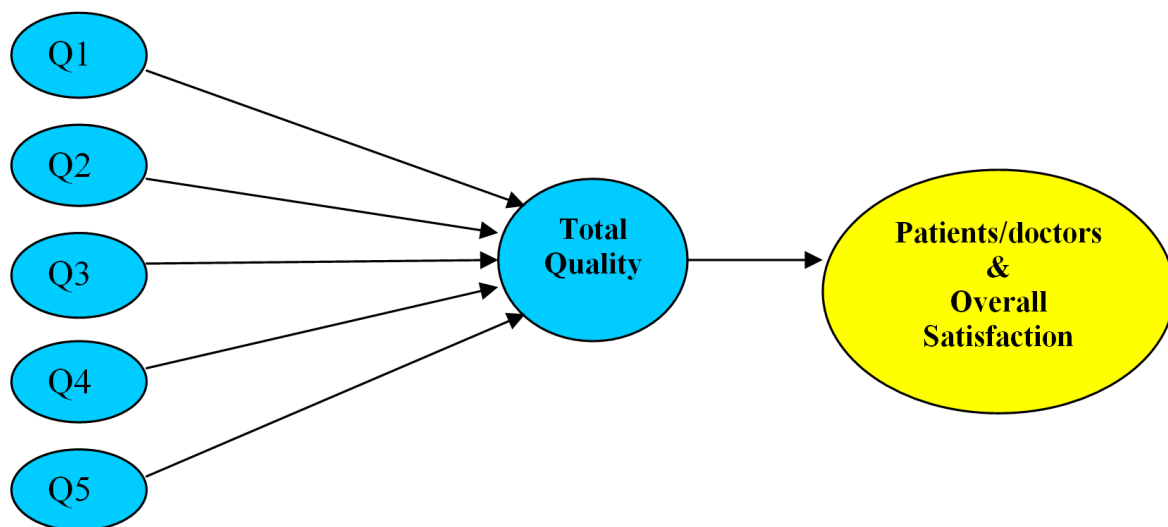


Figure 1: Zineldin's 5 Qs: A Multidimensional Model of Health care attributes and Patients Satisfaction (PS)

**Q1. Quality of object** - the technical quality (what patient receives). It measures the treatment it self; the main reason of why a patient is visiting a hospital.

**Q2. Quality of processes** - the functional quality (how the health care provider provides the core service (the technical)). It measures how well health care activities are being implemented. Examples include waiting times and speed of performing the health care activities. Process indicators should receive more attention in health care industry. They can be used to pinpoint problems in health care delivery and to suggest specific solutions. Front-line nurses/physicians/managers can use process indicators to monitor activity at their facilities and to guide day-to-day decision-making.

**Q3. Quality of infrastructure.** Measures the basic resources which are needed to perform the health care services: the quality of the internal competence and skills, experience, know-how, technology,

internal relationships, motivation, attitudes, internal resources and activities, and how these activities are managed, co-operated and co-ordinated.

**Q4. Quality of interaction.** Q4 measures the quality of information exchange (e.g. the percentage of patients who are informed when to return for a check-up, journal systems, amount of time spent by physicians or nurses to understand the patient's needs, etc), financial exchange and social exchange, etc.

**Q5. Quality of atmosphere** - the relationship and interaction process between the parties are influenced by the quality of the atmosphere in a specific environment where they cooperate and operate. The atmosphere indicators should be considered very critical and important because of the belief that lack of frankly and friendly atmosphere explains poor quality of care in developing countries.

#### **THE MAIN PRINCIPLES OR PILLARS OF THE TRM ARE:**

**Patient satisfaction** which is the emotional response to the difference between what customers expect and what they ultimately receive. Most medical and health care activities are built on the premise that people have a fundamental right to health care and the health care institutions should satisfy the patients' needs.

**Leadership commitment and Continuous improvement involves** every one of the organization, including both managers and workers. When top leaders are committed to good quality, employees accept it as a guiding principle for their own work and they will be able to recommend improvements.

**Managing with facts.** TRM deals with basing decisions on solid research rather than simply intuitions or organizational politics. The decisions should be based on reliable information. By collecting and analyzing accurate, timely, and objective data, managers can diagnose and solve organizational problems and measure progress. Successful planning of relationship strategies requires facts and information about potential target markets and competitors.

**Improve communication and coordination.** TRM argues that different departments, units, facilities, and management levels can work together to improve quality if they share information freely and coordinate their activities.

**Respect and empower of people.** Today's employees want to be empowered instead of controlled. They need to understand the vision and mission of the organization. *Encouraging* staff participation and teamwork can assure good quality. If managers empower health care staff members, they will be able to solve problems and recommend improvements. They will be more committed when they clearly understand the direction in which the organization is moving and their role in it. Respect and empowerment requires mutual trust. Giving Physicians and nurses the authority to solve problems and improve services, as many quality improvement methods do, raises morale. For example, projects that empowered health care workers to develop their own solutions to local problems reduced workers' absenteeism in Uganda and increased staff motivation in Niger (Omaswa, *et. al*, 1997). In contrast, when health personnel feel that conditions prevent them from offering good quality care, they may become discouraged, and they may put most of their effort into other jobs (WHO, 198).

#### **IMPLEMENTATION OF THE 5 QS**

Medical errors (or adverse events) can occur at many points in the health care system, particularly in hospitals. These tips for hospitals are from studies by the Agency for Healthcare Research and Quality (AHRQ), which has funded more than 100 patient safety projects since 2001. Many

findings from AHRQ research can be put into practice of the 5 Qs in hospitals by following practical implementations:

**Q1: *In Specific Settings or Processes of Care***

- Evaluate each patient undergoing elective surgery for risk of an acute ischemic cardiac event during surgery, and provide prophylactic treatment for high-risk patients with beta blockers.
- Evaluate each patient upon admission, and regularly thereafter, for the risk of developing pressure ulcers. This evaluation should be repeated at regular intervals during care. Clinically appropriate preventive methods should be implemented consequent to the evaluation.
- Utilize dedicated anti-thrombotic (anti-coagulation) services that facilitate coordinated care management.
- Adhere to effective methods of preventing central venous catheter-associated bloodstream infections.
- Evaluate each patient upon admission, and regularly thereafter, for risk of malnutrition. Employ clinically appropriate strategies to prevent malnutrition.

**Q1: *Insert chest tubes safely.***

- Universal Precautions (achieved by using sterile cap, mask, gown, and gloves); Wider skin prep; Extensive draping; and Tray positioning (UWET, an easy-to-remember mnemonic) should be used when inserting chest tubes, as per a universal protocol from the Joint Commission.

**Q1: *Prevent central line-related bloodstream infections.***

- Being vigilant and using five evidence-based procedures—including hand washing, using full-barrier precautions during the insertion of central venous catheters, cleaning the skin with chlorhexidine, avoiding the femoral site, and removing unnecessary catheters—reduced deadly infections to zero in a study at more than 100 large and small hospitals.

**Q1: *Limit urinary catheter use to 3 days.***

- Assess catheter use early and use computer-based reminders to alert clinicians to remove catheters as soon as possible to reduce the risk of urinary tract infections (UTIs). Using computer based reminders might help.

**Q1: *Physician qualification:***

- All patients in general intensive care units (both adult and pediatric) should be managed by physicians having specific training and certification in critical care medicine ("critical care certified").

**Q2: *Matching Health Care Needs with Service Delivery Capability.***

- Patients should be clearly informed of the likely reduced risk of an adverse outcome at treatment facilities that have demonstrated superior outcomes and should be referred to such facilities in accordance with the patient's stated preference.
- Specify an explicit protocol to be used to ensure an adequate level of nursing based on the institution's usual patient mix and the experience and training of its nursing staff.

**Q2: *History and Knowledge.***

- Doctors should know about everything about patient health and medication history. This includes prescription and over-the-counter medicines, and even dietary supplements such as vitamins and herbs and any allergies and adverse reactions a patient have had to medicines.

It can help the doctor keep patient records up to date, which can help giving/getting better quality care. This can also help avoid getting a medicine that can harm the patient.

**Q2: *Limit shifts for hospital staff, if possible.***

- Consider options to minimize shifts of more than 16 consecutive hours by residents, interns, and nurses working in hospitals. The rate of serious medical errors will decrease if, for example, 30-hour-in-a-row work shifts were eliminated.

**Q2: *Make good use of senior ICU nurses.***

- Use Registered Nurses and maintain appropriate round-the-clock staffing levels in intensive care units (ICUs) to prevent airway tube complications. Many researches show that adults and children have fewer airway events during daytime hours (7:00 a.m. to 3:00 p.m.), and their negative impact was limited by skilled assistants, backup, and cross-coverage in ICUs.

**Q3: *Build teamwork.***

- Train hospital staff to communicate effectively as a team. teamwork skills can be tailored to any health care setting, from emergency departments to ambulatory clinics.

**Q3: *Use reliable decision-support tools at the point of care.***

- Ensure that computerized physician order entry or personal digital assistant-based drug information is readily available at the point of prescribing or ordering. For example, RxPro, ePocrates, Lexi-Drugs, and mobile Micromedex met AHRQ's quality and safety criteria by reducing potential errors associated with insufficient or incomplete drug information.

**Q3: *Set up a safety reporting system.***

- Watch a video that explains how to implement a Web-based reporting system in the ICU to help eliminate system failures that lead to errors in health care. Compare near-misses to adverse events and examine provider's perceptions of reporting systems.

**Q4: *Interaction and Communication.***

- Most errors result from problems created by today's complex health care system. But errors also happen when doctors and their patients have problems communicating. For example, a recent study supported by the Agency for Healthcare Research and Quality (AHRQ) found that doctors often do not do enough to help their patients make informed decisions. Uninvolved and uninformed patients are less likely to accept the doctor's choice of treatment and less likely to do what they need to do to make the treatment work.

**Q4: *Assess and improve your patient safety culture.***

- Survey staff in individual units and throughout the hospital to improve the culture of patient safety. All health professionals involved in the care of a patient should have all important health information about that patient. The patient should ask, inform and should not assume that everyone knows everything they need to.

**Q4: *Facilitating Information Transfer and Clear Interaction and Communication.***

- Loop communication should be used; that is, for example, a health care provider receiving a verbal order should read or repeat back the information that the prescriber conveys in order to verify the accuracy of what was heard.
- Use **only** standardized abbreviations and dose designations.
- Patient care summaries or other similar records should not be prepared from memory. Ask each patient or legal surrogate to recount what he or she has been told during the informed consent discussion.

- Ensure that written documentation of the patient's preference for life-sustaining treatments is prominently displayed in his or her chart. Implement a computerized prescriber-order entry system.
- Implement standardized protocols to prevent the occurrence of wrong-site or wrong-patient procedures.
- Implementing standardized reporting and safety checklists, such as SBAR.

**Q4: *Patient involvement.***

- The single most important way which can help to prevent errors is to be an active member of health care team. Research shows that patients who are more involved with their care tend to get better results. That means Patients should take part in every decision about their own health and care.
- Patients should be encouraged to ask for information about medicines in terms they can understand—both when the medicines are prescribed and when the patient receive them (e.g. What is the medicine for? How will it affect me? What side effects are likely? What do I do if they occur? What food, drink, or activities should I avoid while taking this medicine?). Some studies found that 88% of medicine errors involved the wrong drug or the wrong dose.
- If a patient is having surgery, she/he should make sure that she/he, the doctor, and the surgeon all agree and are clear on exactly what will be done. Doing surgery at the wrong site (for example, operating on the left knee instead of the right) is rare. But even once is too often. The wrong-site surgery is 100 percent preventable. The American Academy of Orthopaedic Surgeons urges its members to sign their initials directly on the site to be operated on before the surgery.

**Q5: *Minimize unnecessary interruptions.***

- Reduce distractions faced by the nursing staff, especially during critical times such as shift changes. For example by having overlapping shifts. Encourage staff to speak up when necessary, but create a "zone of silence" near medication preparation carts and other areas where concentration is essential.

**Q5: *Patient atmosphere of empowerment.***

- When the patients are being discharged from the hospital, they must ask doctors to explain the treatment plan they will use at home. This includes learning about your medicines and finding out when you can get back to your regular activities. Research shows that at discharge time, doctors think their patients understand more than they actually do about what they should or should not do when they return home.
- When a patient is in a hospital, she/he should consider asking health care workers who have direct contact with whether they have washed and disinfected their hands. Hand disinfection is the most simple and yet such an important way to prevent the spread of infections in hospitals. Nevertheless, it is not done regularly or thoroughly enough. Some studies found that when patients checked whether health care workers washed their hands, the workers became more wary about their hand-hygiene.
- Each patient should learn about their own condition and treatments by asking the doctor and nurse and by using other reliable sources.

**Q5: *Create a health care culture of safety.***

- There is a need to promote a culture that overtly encourages and supports the reporting of any situation or circumstance that threatens, or potentially threatens, the safety of patients or

caregivers. Seeing the occurrence of errors and adverse events as opportunities indeed helps making the health care system better.

- Vaccinate health care workers against influenza to protect both them and patients.

## **DISCUSSION AND CONCLUSION**

The challenges in achieving medical and health care quality (MHCQ) excellence are many and as difficult to deal with as it is for any other industry. Medical errors are difficult to measure for a variety of reasons such as inadequate reporting with varied definitions and further complications arise with most of the errors not being the result of a single act but a chain of events, which also mention by Trucsko et al (2008). All this creates a complex situation in which we assess MHCQ with the main idea of analysing how well patients are satisfied, what is valued by patients, how the patient perceive the MHCQ, and how these can be improved.

This study shows that there is a need for a healthcare-system response to error that moves the system towards being as “fail-Zero” and "failsafe" as possible rather than one that blames the clinician who may have erred (Wilson, et al 1999). Providing insights into how MEs and AEs occur can help in developing prevention strategies to reduce the frequency and severity of patient injuries during healthcare. Prevention strategy is the plans and actions which lead to changes in the system in which the errors are suppose to occurred. The main goal of the prevention strategy is to reduce the probability of the error occurring and increase the probability that the error would be remedied before an unintentional injury occurred.

One major problem is that the medical record often focuses more on the actions of clinicians involved in direct or procedural patient intervention, and less on the actions of other staff or systems with a more supportive role. These and other factors will lead to an emphasis on procedures and short term outcomes, and a possible under-reporting of the contribution of supporting systems in causing AEs.

The high proportion of causes of AEs involving cognitive failure must represent a manifestation of human error occurring in a system that is not patient protective, if one accepts that these practitioners are appropriately trained and competent by international standards. There is a need for a clear guidance on methods for improvement, with new, better, or better implemented policies or protocols, quality monitoring and assurance processes and better education and training.

Until recently there has been an under-recognition of the role and responsibilities of the healthcare system and its custodians in providing a "safe environment" using systems-improvement tools. To improve, for instance, the quality of discharge summary Bergkivst et al (2009) suggested that the medical staff should review and feedback on errors in the discharge summary, including the medication report and a correct medication list, reduced medication errors during the transfer of information from hospital to primary and community care.

TRM offers a possible way to improve collaboration, decrease medical errors and increase quality of patient care and safety. The 21st-century paradigm or the TRM paradigm is that of physicians who understand teamwork and systems of care in which they can provide leadership. Group practice, both virtual and real, will allow the support of information systems, the collection of evidence about care, and efforts for continuous quality improvement. The proposed 5Qs model consists of some generic and integrated dimensions. Each quality dimension is represented by a number of statements/items, intended to represent a specific quality factor as thoroughly and reliably as possible. The questions/statements should be specific enough to provide an operative decision-making basis for quality improvement.

In everyday life when an error occurs, frank debate and discussion, disclosure and apology are expected. Although full disclosure to the patient is the ethically and professionally correct course of action, when a medical error occurs, disclosure and apology are often overridden by the fear of malpractice litigation (MacDonald *et al*, 2009).

Honesty, trust and frankly debate, mutual respect and apology when a mistake occurs are vital for improvement of patient safety and quality of care (Ziendlin, 2006, Kaldjian *et al*, 2006). By not disclosing adverse events, the physician fails the patient in terms of honesty, openness and respect. Furthermore, nondisclosure may put the patient at risk for future harms because he or she does not know what happened. Candor about errors among colleagues is also critical for professional development, patient safety improvements and public trust in the health care system (MacDonald *et al*, 2009). Saying sorry and making an apology can have profound healing effects for all parties. For the physician, an apology can help diminish feelings of guilt and shame. For the patient, it can facilitate forgiveness and provide the basis for reconciliation (Lazare, 2006).

In summary, improvement is needed in the agreed processes of care, supported by information systems that allow general dissemination of current knowledge of diseases or treatments, and information on outcomes of care for each patient, through appropriate quality processes. Simple examples are the availability of practice guidelines and protocols at the point-of-care, and the use of automated reminders for patients and practitioners when a particular test or follow-up is required. In addition, having adequate patient "outcome" information in a form that can be benchmarked is a powerful tool in identifying unacceptable variation.

## REFERENCES

- Alford, B.L. (1998), "Affect, attribute and disconfirmation: their impact on health care services evaluation", *Health Marketing Quarterly*, Vol. 15 No. 4, pp. 55-74.
- Ask, J.; Brommels, M.; Thor, J.; Penaloza, R. V.; F A Gaffney, F. A. (2008), Analysis of 23 364 patient-generated, physician-reviewed malpractice claims from a non-tort, blame-free, national patient insurance system: lessons learned from Sweden, *MMJ Qual Saf Health Care*; Vol. 17, No. 4, pp. 259-263
- Barker, K.; Flynn, E.; Pepper, G.; Bates, D.; Mial R. (2002), Medication Errors Observed in 36 Health Care Facilities, *Archives of Internal Medicine (Arch Intern Med)*, Vol. 162, pp. 1897-1903.
- Bergkvist, A.; Midlöv, P.; Höglund, P.; Larsson, L.; Bondesson, Å.; Eriksson T. (2009), Improved quality in the hospital discharge summary reduces medication errors—LIMM: Landskrona Integrated Medicines Management, *Eur J Clin Pharmacol* (2009) 65:1037–1046
- Blumenfeld, S.N. (1993), "Quality assurance in transition", *Papua New Guinea Medical Journal*, Vol. 36 No. 2, pp. 81-9.
- Brennan TA, Leape LL, Laird NM, Hebert L, Localio AR, Lawthers AG, et al (1991), Incidence of adverse events and negligence in hospitalized patients. *N Engl J Med*, Vol. 324, pp. 370-6.
- Bernna, P.F. (1995), "Patient satisfaction and normative decision theory", *Journal of American Medical Informatics Association*, Vol. 2 No. 4, pp. 450-9.
- Camgoz-Akdag, H. & Zineldin, M. "Quality of Health Care and Patient Satisfaction: An exploratory investigation of the 5Qs model at Turkey", *Clinical Governance: An International Journal*, Emerald Publications Vol.15, issue 2, 2010.
- Combs A, Taylor C. (1952) The effect of the perception of mild degrees of threat on performance. *J Abnormal Social Psychology* Vol. 47, pp 420-4.



- Corrigan, K., Donaldson, JM, (1999), *To err is human: building a safer health system*. Washington, DC: National Academy Press, 1999.
- Daniel, L. (1994), “Doctor-shopping in Hong Kong: implications for quality of care”, *International Journal for Quality in Health Care*, Vol. 6 No. 4, pp. 371-81.
- De Geyndt, W. (1995), “*Managing the quality of healthcare in developing countries*”, World Bank Technical Papers, World Bank, Washington, DC, p. 258.
- Donchin Y, Gopher D, Olin M, Bodihi Y, Sprung CL, Pizov R, et al.(1995), A look into the nature and causes of human errors in the intensive care unit. *Crit Care Med*, Vol. 23:294-300
- Frey, R., Medical errors , *Encyclopedia of Surgery*, <http://www.surgeryencyclopedia.com/La-Pa/Medical-Errors.html> Accessed 22-6-2011
- Edmunds, M., Strachand, D. and Vriesendorp, S. (1987), *Client-responsive Family Planning: A Handbook for Providers*, Pathfinder Fund, Watertown, MA.
- European Commission Special Eurobarometer 241 (2006), *Medical Errors: Fieldwork: September – October 2005*, European Commission
- Hall, J.A., Epstein, A.M., Deciantis, M.L. and McNeil, B.J. (1993), “Physicians’ liking for their patients: more evidence for the role of affect in medical care”, *Health Psychology*, Vol. 12 No. 2, pp. 140-6
- Helmreich RL, Schaefer H-G (1994). Team performance in the operating room. In: Bogner M, ed. *Human error in medicine*. Hillsdale, NJ: Laurence Erlbaum
- Institute of Medicine (IOM) (2001). *The National Academies*. 500 Fifth Street, NW, Washington, DC
- Kaldjian LC, Jones EW, Rosenthal GE, et al. (2006), An empirically derived taxonomy of factors affecting physicians' willingness to disclose medical errors. *J Gen Intern Med*, Vol. 21, pp.942-8.
- Klein, W.M. (1997), “Objective standards are not enough: affective, self-evaluation and behavioural responses to social comparisons information”, *Journal of Personality and Social Psychology*, Vol. 72 No. 5, pp. 763-74.
- Kelley, S. and Davis, M. (1994), “Antecedents of customer expectations for service recovery”, *Journal of the Academy of Marketing Science*, Vol. 22 No. 12, pp. 52-61.
- Kohn L.; Corrigan J., Donaldson, M. (1999),. *To Err Is Human: Building a Safer Health System*. Washington, DC: National Academy Press
- Koppel, I (2009), *Interprofessional education: effects on professional practice and health care outcomes*, The Cochrane Collaboration. JohnWiley & Sons, Ltd.
- Koeck, C.M. (1997), “*Doing better: a global medical interest*”, in Kazandjian, V.A. (Ed.), *The Effectiveness of CQI in Health Care: Stories from a Global Perspective*, ASQC Press, Milwaukee, WI.
- Lazare A. (2006), Apology in medical practice: an emerging clinical skill. *JAMA*, Vol.296, pp.1401-4.
- Leape LL. (1994), Error in medicine. *JAMA*, Vol 272, No. 23, pp.1851-1857.
- Linder-Pelz, S. (1982), “Toward a theory of patient satisfaction”, *Social Science and Medicine*, Vol. 16 No. 5, pp. 577-82.
- Lo, A.Y., Hedley, A.J., Pei, G.K., Ong, S.-G., Ho, L.-M., Fielding, R., Chung, K.-K.

- MacDonald, N.; Attaran, A.; DPhil, LLB. (2009), Medical errors, apologies and apology laws, Canadian Medical Association Journal (CMAJ), Vol. 180, No. 1.P.11
- McGlynn, E.A. (1995), “Quality assessment of reproductive health services”, Western Journal of Medicine, Vol. 163 No. 3, pp. 19-37.
- McGrew, R.E. (1985), “Medical profession”, in Porter, R. (Ed.), Encyclopedia of Medical History, McGraw Hill, New York, NY.
- Midlöv, P.; Bergkvist, A.; Bondesson, Å.; Eriksson, T.; Höglund, P. (2005), Medication errors when transferring elderly patients between primary health care and hospital care, Division of Clinical Chemistry and Pharmacology Medicine (Lund), Pharmacy world & science: PWS, Vol.27, No.2, pp 116-120
- Morgan, C. and Murgatroyd, S. (1994), Total Quality Management in the Public Sector: An International Perspective, Open University Press, Buckingham.
- Nocera A, Khursandi DS (1998), Doctors' working hours: can the profession afford to let the courts decide what is reasonable. Med J August, Vol. 168, pp. 616-618
- Oliver, R.L. (1993), “A conceptual model of service quality and service satisfaction: combatable goals, different concepts, advances”, in Swartz, T.A., Bowen, D.A. and Brown, S.W. (Eds), Services Marketing and Management: Research and Practice, JAI, Greenwich City, CT, pp. 65-85.
- Omaswa F, Burnham G, Baingana G, Mwebesa H, Morrow R. 1997. Introducing quality management into primary health care services in Uganda. *Bulletin of the World Health Organization* 75: 155–61.
- Reason J. (1990), *Human Error*, Cambridge: Cambridge University Press
- Roberts, J.S. and Schyve, P. (1990), “From QA to QI: the views and roles of the Joint Commission”, *The Quality Letter*, May.
- Rothschild, J; Landrigan, C., Cronin, J.; Kaushal, R; Lockley, S.; Burdick, E.; Stone, P.; Craig, M.; Katz, J.; Czeisler, C.; Bates, D. (2005), The Critical Care Safety Study: The incidence and nature of adverse events and serious medical errors in intensive care, *Critical Care Medicine*: Vol. 33, No. 8, pp 1694-1700
- SAS Health and Life Sciences blog (2009) , Analyzing Healthcare in Sweden, Monday, March 23, <http://blogs.sas.com/hls/index.php?archives/32-Analyzing-Healthcare-in-Sweden.html> (access 22-06-2011)
- Santora TA, Trooskin SZ, Blank CA, Clarke JR, Schinco MA.(1996), Video assessment of trauma response: adherence to ATLS protocols. *Am J Emerg Med* , Vol. 14, pp. 564-9.
- Sexton, JB.; Thomas, E. J.; Helmreich, R. (2000), Error, stress, and teamwork in medicine and aviation: cross sectional surveys, *BMJ VOLUME* 320 18 MARCH
- Schuster M, McGlynn E, Brook R. (1998). How good is the quality of health care in the United States? *Milbank Q.*, Vol. 76, pp.517-563.
- Scott Reeve, S.; Zwarenstein<sup>2</sup>, M.; Goldman, J.; Barr, H.; Freeth<sup>5</sup>, D.; Hammick<sup>6</sup>, M. and Wilson, R.; Harrison, B.; Gibberd, R. and Hamilton, J. (1999), An analysis of the causes of adverse events from the Quality in Australian Health Care Study. *The Medical Journal of Australia (MJA)*, Vol. 170: 411-415

Shine, K. (2002), Health Care Quality and How to Achieve It, Academic Medicine (Acad. Med), VO L. 77, No . 1, pp. 91-99

The Local: Sweden's News in English (2011), Swedish medical errors prove ever more costly, Published: 4 Jan 11 09:29 CET <http://www.thelocal.se/31240/20110104/>

Thomas EJ, Studdert DM, Newhouse JP, Zbar BIW, Howard KM, Williams EJ.(1999), Costs of medical injuries in Utah and Colorado. *Inquiry*, Vol. 36, pp.55-64.

Thomas, E. and Petersen, L. (2003), Measuring Errors and Adverse Events in Health Care, *Journal of General Internal Medicine*, Vol. 18, No. 1, pp. 61–67, January

Trucco, P. & Cavallin, M. & Chiarelli, P. & Lorenzi, F. 2008. Error and risk antecedent statistical monitoring in health-care. *Proceeding of HEPS 2008 Conference*  
<http://www.heps2008.org/abstract/data/PDF/Lorenzi.pdf>.

Vera, H. (1993), “The client’s view of high-quality care in Santiago, Chile”, *Studies in Family Planning*, Vol. 24 No. 1, pp. 40-9.

Weed LL. New connections between medical knowledge and patient care. *BMJ* 1997; 315: 231-235.

Weingart, S., Wilson, R., Gibberd, R., Harrison, B.(2000), Epidemiology of medical error, *BMJ* Vol.320, March

Wilson RMcL, Runciman WB, Gibberd RW, et al. The Quality in Australian Health Care Study. *Med J Aust* 1995; 163: 458-471.

WHO (1993), *Evaluation Method Guidelines for Maternal and Child Health, Family Planning, and Other Health Services*, World Health Organization, Geneva.

WHO. 1981. Development of indicators for monitoring progress towards Health for All by the Year 2000. ‘*Health For All*’ Series No. 4. Geneva: World Health Organization

Zineldin, M. (2000a), *Total Relationship Management*, Studentlitteratur, Sweden.

Zineldin, M. (2000), “Total relationship management (TRM) and total quality management (TQM)”, *Managerial Auditing Journal*, Vol. 15 Nos 1-2, pp. 20-8.

Zinedin, M. (2004), “Co-opetition: the organization of the future”, *Marketing Intelligence & Planning*, Vol. 22 No. 7, pp. 780-7.

Zineldin, M. (2006), The quality of health care and patient satisfaction, An exploratory investigation of the 5Qs model at some Egyptian and Jordanian medical clinics, *International Journal of Health Care Quality Assurance*, Vol. 19, No. 1, pp. 60-92

Zineldin, Akdag, H., Vasicheva V. (2011), Measuring, Evaluating and Improving Hospital Quality Parameters/Dimensions- An Integrated Healthcare Quality Approach", *International Journal of Health Care Quality Assurance*, Vol.. 24, No. 8

Øvretveit, J. (2004), “Formulating a health quality improvement strategy”, *International Journal of Health Care Quality Assurance*, Vol. 17 No. 3, pp. 368-76.