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Social Media usage in enterprises. Empirical evidence from different perspectives

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Introduction

The world is changing constantly due to the pervasive impact of Information and Communication Technologies (ICT), such as mobile smartphones, social media, blogs, etc. Many of these technologies did not exist ten years ago and our lives, society, business and enterprises are being shaped by them.

ICT means the set of tools, usually of an electronic nature, used to collect, store, process, diffuse and transmit information. ICTs are both physical devices (e.g. computer equipment, telecommunication networks, terminals, etc.) and software or computer applications which are used by devices.

Digitalization plays a key role in shaping social innovation sector boundaries, continually fostering its cross-industry nature, and constantly changing the social innovative phenomenon, which is not easy to define regarding markets, products, and services (Maiolini et al., 2016).

Exploiting ICT, enterprises not only attain similar efficiency gains at lower costs, but also enlarge the size of their potential markets and find new growth opportunities (Haller & Siedschlag, 2011). Enterprises which use ICT have usually positive effects in terms of commerce, by means of e-commerce, and economic performance (Dewan & Riggins, 2005). Therefore, the lack of ability to enhance the opportunities offered by ICT, especially in terms of conducting e-business, may potentially be an inhibiting factor for enterprises' economic performance (Morgan et al., 2006).

The usage of ICT for enterprises is determined by different management strategies and different methodologies of using. This is the main reason why additional studies have to be conducted on the usage of ICT in enterprises and the impact on their economic performance.

For example, the existence of computers, information handling systems and communication systems, enables enterprises to be more efficient in the use of information (Martin et al., 2013). ICT also has a positive impact on the productivity and competitiveness of enterprises (Mason & Hacker, 2003; Hernaus, Bach, & Vuksic, 2012; Skrinjar, Bosilj Vuksic, & Indihar Stemberger, 2010; Yu, 2006; Brynjolfsson & Hitt 2003;



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Leitão & Ferreira, 2009; Martin et al., 2013) and the innovative performance (Carlsson, Jacobsson, Holmen, & Ricknea, 2002). It drives also positive changes in firms' structure (Spanos, Prastacos, & Pulymenakou, 2002)

The use of ICT allows enterprises to have new channels for marketing as well as for sales and may reduce distance and entry related costs, factors particularly important for smaller firms with limited resources (Lohrke et al. 2006; Morgan-Thomas & Jones 2009). Small and medium enterprises can benefit using ICT because they can easily connect with larger corporations and become part of their business, as well as with other small firms which are geographically distant. For this reason, firms operating in rural areas are much more ready to implement the use of technologies, especially in e-commerce (Forman, 2005).

Autor et al. (2003) have argued that through ICT the routine tasks of both low human capital workers (like assembly line workers) and higher human capital workers (like bank clerks) have been replaced by computerization (Autoret al., 2003).

The adoption of ICT in firms depends upon several factors like location and size of the enterprises (Arbore & Ordanini, 2006; Bapna, Goes, Wei, & Zhang, 2011; Grimes, Ren, & Stevens, 2012; Galliano, Roux & Soulie, 2011). In Italy, it has been found that the adoption of production-integrating ICTs depends on the firms' size, the extent of productive linkages with other firms, the use of advanced information technologies in production and the educational level of the labour force (Lucchetti & Sterlacchini, 2004).

Leitão and Ferreira (2009), exploiting data on Germany and Portugal, find a positive and significant impact of the regulation practices oriented to ICT investment on the economic performance of enterprises. Martin et al. (2013), looking at Romanian enterprises, finds that the adoption of ICT positively influences economic outcome of enterprises. Also the export intensity seems to be strongly related to ICT (Hagsten & Kotnik, 2017).

Some studies have estimated aggregate economic impacts arising from ICT usage (Clayton, 2005; Hagen & Zeed, 2005) and, more specifically, broadband adoption (Greenstein & McDevitt, 2009). A firm's broadband adoption choice is determined by different variables:

- size (Hubbard, 2000; Astebro, 2002);
- age (Goldfarb, 2006);



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- neighbours influence (Debruyne & Reibstein, 2005);
- quality of external infrastructures;
- management abilities (Bharadwaj, 2000; Forman, 2005; Matthews, 2007; Morgan et al., 2006; Giuri et al., 2008; Black & Lynch, 2001; Bresnahan et al., 2002);
- foreign ownership (Kraemer et al., 2005);
- urbanization (Forman et al., 2005; Gaspar & Glaeser, 1998; Lasch et al., 2013).

The importance of ICT impacts on enterprises justifies researchers' interest in studying the main drivers of ICT diffusion. Nevertheless, the literature on ICT determinants in European countries is scarce. It has explored the influence of ICT diffusion in the firms on the users' characteristics and the importance of training for employees (Bach et al., 2013; Haller & Siedschlag, 2011; Martin & Omrani, 2015). Confidence in ICT is crucially important in determining how an enterprise is both motivated and equipped to harness ICT for growth. A notable constraint to ICT adoption is confidence in technology. This is where training can be strategically targeted. Product and solution knowledge will enhance the confidence in ICT to support the business (Matthews, 2007).

Actually, the adoption of ICT in firms depends on the education and training of employees (Gargallo-Castel & Ramírez-Alesón, 2008). Lucchetti and Sterlacchini (2004) explain that the availability of highly educated workers turns out to be a key factor in the usage of ICT in a sample of Italian SMEs. Also, ICT has impact on the improvement of external and internal communication (Tarutè & Gatautis, 2014).

Due to the increasing use of Social Media platforms from 2008 onwards, studies have expanded their analyses of ICT adoption in enterprises to include also Social Media (SM). These studies find that enterprises use SM for a variety of purposes, ranging from branding and marketing to observing customer behaviour or also to improve the internal organization.

SM is defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content” (Kaplan & Haenlein, 2010; p. 61). SM are usually classified into eight categories (see, Fotis, 2015; Kaplan & Haenlein, 2010): Social Networking Sites (SNSs); blogs; microblogs; wikis; content community sites; consumer review sites; Internet forums; location based social media. SM has over time become a tool for companies to



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communicate and engage with customers at lower cost and more effectively than traditional channels (Kaplan & Haenlein, 2010). The use of SM in enterprises is a research topic of increasing interest in recent literature (Dessart, Veloutsou, & Morgan-Thomas, 2015; De Vries, Gensler, & Leeflang, 2012; Ashley & Tuten, 2015). However, the need is highlighted for further research, especially at empirical level.

The current research on the use of SM in enterprises is mainly focused on the interactions with consumers and more in general on their public relations (Aula, 2010; Firestein, 2006; Kaplan & Haenlein, 2010; Libai, Bolton, Bügel, de Ruyter, Götz, Risselada, & Stephen, 2010; Kietzmann, Silvestre, & McCarthy, 2011).

SM is increasingly being seen as a tool for improving customer relationship management (Trainor, 2012). For example, an effective communication between firms and customers helps to build brand loyalty with the aim of promoting products and services and fostering online communities of brand followers (Kaplan & Haenlein, 2010; Papa et al., 2018). Also, conversations between customers allow an increase in brand awareness, brand recognition, and brand recall (Gunelius, 2011; Ruehl et al., 2017).

Luo and Zhang (2013) suggest that SM can be seen as strongly predictive of firms' future equity value. Their study reveals that positive blog posts can lead to higher equity values. Conversely, negative blog posts can harm reputations, leading to weaker values. Therefore, negative publicity in SM can rapidly affect the economic outcome of firms (Luo & Zhang, 2013). Several studies have also examined the relationship between social media and financial figures (Schniederjans, 2013; Trainor, 2012; Yu et al., 2013). Schniederjans (2013) investigates and finds a partial positive connection between the use of social media and financial performance.

Entrepreneurs use social media to find new contacts. The most important usage of social media seems to be the visibility among prospective and present customers and to progressively build up different types of networking (Kahar et al., 2012). Social media usage can facilitate communication and the decision-making processes (Park et al., 2017).

Adoption of SM is strongly influenced by social influences from experts, competitors, and customers. These social influences affect the intention to adopt this new technology both directly, and by affecting the perceptions of the technology's usefulness. For enterprises already using SM, social influence is the only strong determinant of the intention to



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continue employing this marketing technology, with the amount of experience with SM strengthening this relationship (Pentina et al., 2012). This points out the importance of a psychological perspective in the study of the use of SM by entrepreneurs.

In the last decade, SM has therefore transformed the way in which enterprises, and especially those of smaller sizes, do business and take internal and external relationships (Papa et al., 2018). These changes have opened new opportunities for business and, in particular, for increasing economic performance and survival rates of firms. The purpose of this doctoral thesis is to look at the use of SM for business from different perspectives. The thesis indeed focuses on economic and psychological aspects of the use of SM in enterprises, providing novel empirical evidence which is useful to corroborate and improve the current conceptual and theoretical models. The thesis is organized into three chapters.

In the first chapter, we exploit aggregate data on the use of ICT and Social Media in European enterprises in order to look at the position of Italy with respect to the other countries. Specifically, we analyse data collected in the 2015 EUROSTAT survey on “*ICT usage and e-commerce in enterprises*”. Data refer to 33 European countries (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, United Kingdom, Iceland, Norway, Former Yug. Rep. of Macedonia, Turkey) and enterprises are grouped by size as follows: small (10-49), medium (50-249) and large enterprises (250 or more persons employed).

In the second chapter, we use microdata on Italian enterprises always referred to the same survey. The main purpose is here to explore the determinants at firm level which may significantly influence the probability of using SM and the aims for which different types of SM are used. On this last point, it is interesting to note if SM is used to reach the ‘outside world’, or to improve communication inside the firm or for other aims, like for example recruitment.

In the third chapter, we show results from a case study on the relationship between entrepreneurs’ characteristics and the use of Social Media for their business. In this part, we particularly focus on the psychological aspects. To this end, two important theories are considered and empirically tested: Theory of Planned Behaviour (TPB) and Technology



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Acceptance Model (TAM). Specifically, this case study aims to compare the role of different characteristics of entrepreneurs who use SM for their business activity with respect to those used in traditional ways.





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Chapter I

THE USE OF SOCIAL MEDIA:

EVIDENCE FROM EUROPEAN COUNTRIES

1.1 Introduction

Information and Communication Technologies (ICT) have fast assumed an important role in entrepreneurship in European countries. The extensive and intensive use of new technologies, combined with the use of Internet, generated the so-called electronic economy in European countries (e-economy and e-marketing).

ICT and its impact on economic, social and personal development has become an important object of scientific research during recent decades. Enterprises have an important role to play in the economic development of countries, poverty reduction and employment creation. Small and medium enterprises (SME) largely contribute to employment creation, and the adoption and assimilation of ICT may be one of the most relevant channels for their economic success (Higon, 2011).

However, important differences in the use of ICT and SM emerge not only across firms with different characteristics but also across similar firms located in different countries. This may depend not only on technological barriers but also on sociological and psychological aspects that can hamper or foster the use of new technologies for both business activity and personal aims.

This chapter aims to point out the position of Italy with respect to other European countries in the use of ICT and SM for business activity. To this end, we exploit data collected in the EUROSTAT survey "*ICT usage and e-commerce in enterprises*".

1.2 Description of EUROSTAT Database

The EUROSTAT survey on "*ICT usage and e-commerce in enterprises*"¹ includes statistical information on the use of social media² in European Union (EU) as part of their

¹ http://ec.europa.eu/eurostat/cache/metadata/en/isoc_e_esms.htm

² <http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Enterprise>



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strategy for integrating information and communication technologies in their business. Here we use data referring to the year 2015.

The surveys for each country are developed in close collaboration with Member States and OECD (Organisation for Economic Co-operation and Development) and are adapted to the changing needs of users and policy makers. The periodicity of this survey is annual, meaning the data is collected and compiled once per year.

Data are collected from samples of enterprises in 33 European countries: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, United Kingdom, Iceland, Norway, Former Yug. Rep. of Macedonia, Serbia, Turkey.

Enterprises are aggregated by size as follows: small (10-49), medium (50-249) and large (250 or more persons employed). In this chapter, we empirically explore the difference in ICT and SM usage between Italy and the rest of European countries.

Data are sectoral, aggregated by the classification NACE Revision 2. The sectors covered are: manufacturing, electricity, gas and steam, water supply, construction, wholesale and retail trades, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities, information and communication, real estate, professional, scientific and technical activities, administrative and support activities and repair of computers and communication equipment.

The respondent for each enterprise is a decision maker with major responsibility for ICT-related issues in the enterprise (e.g. the ICT manager). In smaller enterprises, the respondent should be someone at the level of managing director or the owner.

The survey collects information on the following list of subjects:

- ICT systems and their usage in enterprises,
- use of internet and other electronic networks by enterprises,
- e-commerce and e-business processes,
- ICT competence in the enterprise unit and the demand for ICT skills,
- barriers to use of ICT, internet and other electronic networks, e-commerce and e-business processes,



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- ICT expenditure and investment,
- ICT security,
- perceived effects of ICT usage on enterprises.

The variables are mainly measured in qualitative terms (i.e. binary variables). In the following analysis, we focus on the variables related to Social Media usage and aims connected to the use of SM.

1.2.1 Social media use by type

Enterprises using SM are considered to be all those that have a user profile, an account or a user license depending on the requirements and the type of social media.

The general availability of the internet has given entrepreneurs the opportunity to use social media, from email to Twitter, Instagram and Facebook, to interact without the need for physical meetings. Organizations have also taken advantage of social network sites, and the entrepreneurs can choose which social media to utilize in their business activity. This has been facilitated by web 2.0 applications, through which entrepreneurs can interact and generate content online.

The concepts behind social media and the use of the relevant web 2.0 tools are linked; the use of technology to enable communication, networking, social bonding and sharing e.g. blogging, using wikis, using and participating in content management applications and web services, etc. In the enterprises that use SM there are new forms of collaboration and information management within the enterprises that help employees, customers and suppliers to collaborate, to share, to innovate and to organize knowledge and experiences.

In the subsequent part of the chapter, we aim to analyse some main items of the EUROSTAT survey, focusing our attention on the comparison between Italy and the other European countries. Table 1 shows a list of variables used in the subsequent descriptive analysis. All variables are measured as a percentage of enterprises in the country with a given feature.



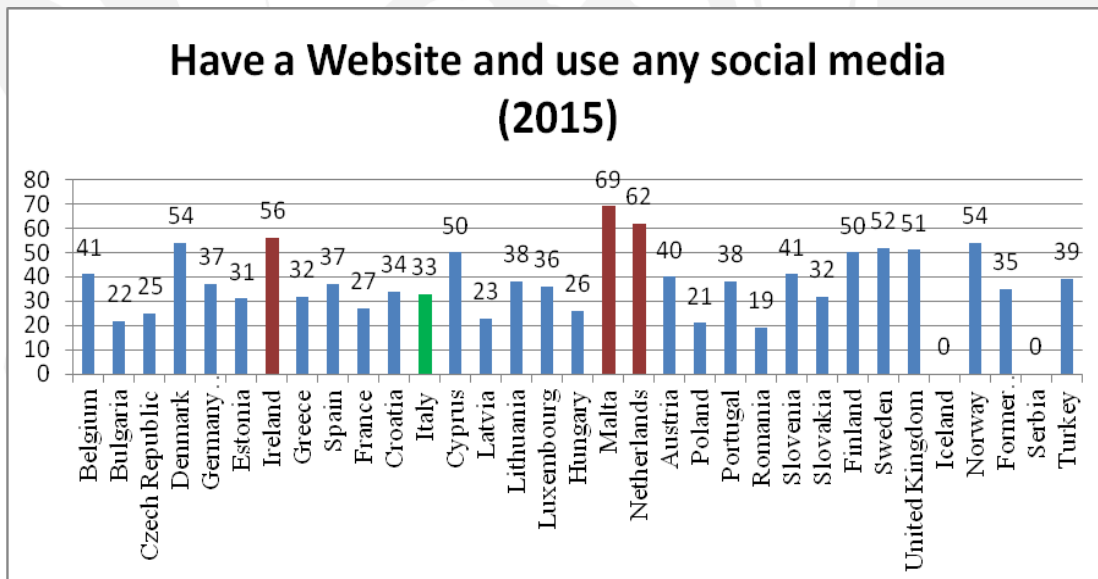
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Table 1: List of variables. Source: EUROSTAT, 2015.

ICT component	Variable	Description
Use of ICT	Have a Website and use any social media	% of enterprises
Use of SM	Use any social media	% of enterprises
Use of SM	Use only one type of social media	% of enterprises
Use of SM	Use two or more social media	% of enterprises
Use of specific SM	Use social networks	% of enterprises
Use of specific SM	Use enterprise's blog or microblogs	% of enterprises
Use of specific SM	Use multimedia content sharing websites	% of enterprises
Use of specific SM	Use wiki based knowledge sharing tools	% of enterprises

In Figure 1, we show percentage of enterprises by country that have a website and use any types of social media. The average value is 39%.

Figure 1: Website and social media usage in enterprises by country (year 2015)



From Figure 1, we can note that Italy has a low value (33%) in relation to other countries. Indeed, the average value is about 39% independently of whether we consider all European



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countries or only the most developed countries. We also note the high values of Malta (69%), Netherlands (62%) and Ireland (56%).

Figure 2 concerns only the use of social media. No specific types of social media are here considered. Italy is a bad performer also in this case, with a percentage of 37% compared to the average value of 42%. Countries with higher values are: Malta (72%), Ireland (64%), Netherlands (63%) and Norway (60%).

Figure 2: Use of social media in enterprises by country (year 2015)

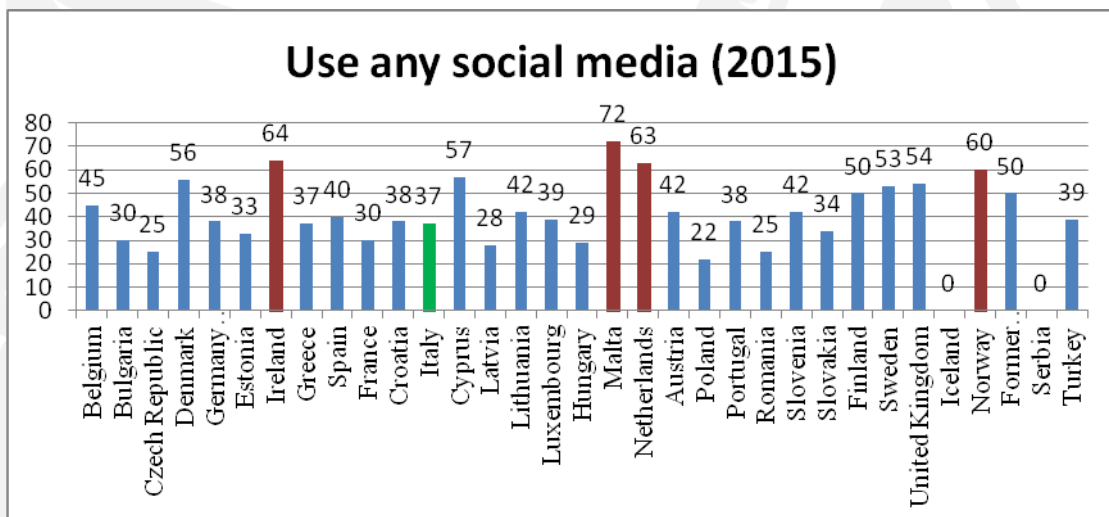


Figure 3 by contrast refers to the use of only one type of social media. In this case, Italy (23%) is below the average of European Countries as a whole (25%) but above average for the most developed European Countries (22%). Best performers are Malta (46%), Norway (42%), Yugoslav (38%) and Denmark (36%).



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Figure 3: Use of only one type of social media in enterprises by country (year 2015)

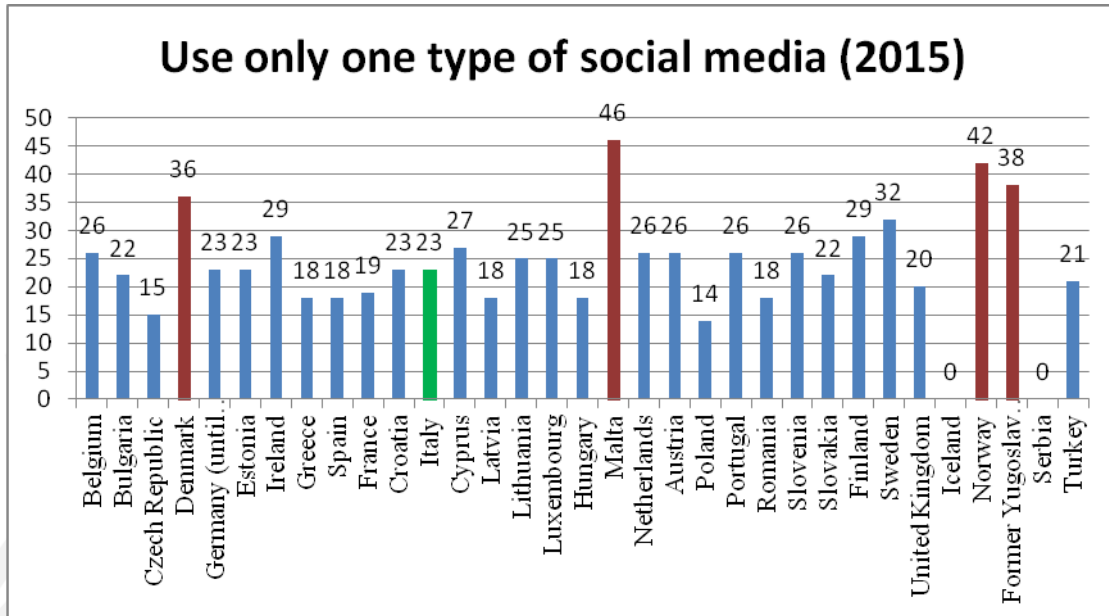
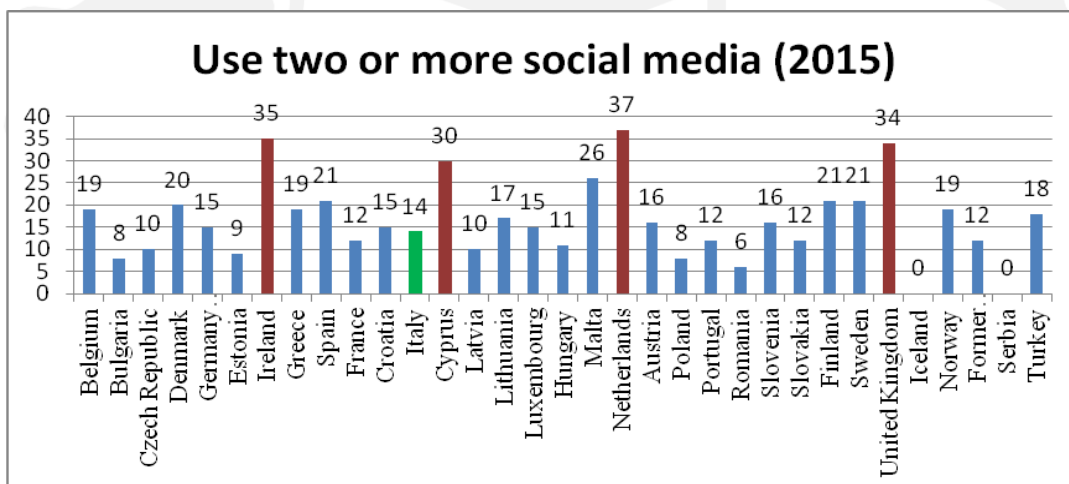


Figure 4 considers an extensive use of social media looking at the combined use of two or more types. This is an important item because the combined use can be due to a more effective business strategy for the use of social media. Once again Italy is below the average value, 14% with respect to 17% in all European countries and 20% in most developed European countries. The higher values are recorded in: Netherlands (37%), Ireland (35%), United Kingdom (34%) and Cyprus (30%).

Figure 4: Use two or more social media in enterprises by country (year 2015)

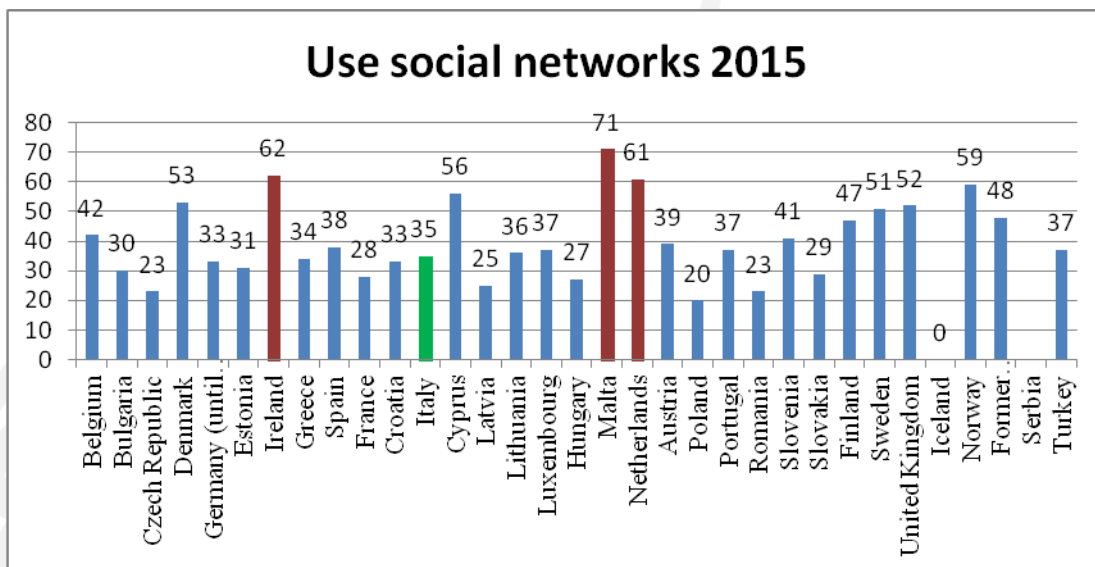




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Figure 5 shows the use social networks (e.g. Facebook, LinkedIn, Xing, Viadeo, Yammer, etc.). Italy is always below the average value regardless of which group of European countries is considered.

Figure 5: Use of social networks in enterprises by country (year 2015)



It has to be noted that Google Talk and Skype are not considered as social media, as in principle they provide the means for voice over the internet, for one-to-one communication or many-to-many conferencing among predefined contacts.

Figures 6-7-8 also refer to use of specific types of social media (blogs, multimedia content sharing websites, wiki based knowledge sharing tools, respectively). We note that Italy's values become near to the mean when we consider social media typically used to more specific aims such as to share content or knowledge. However, these types of social media are not intensely used by enterprises. Probably they are used by enterprises of larger size in specific industries. This points will be investigated more deeply in the next chapter by exploiting microdata.



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Figure 6: Use of enterprise's blog or microblogs in enterprises by country (year 2015)

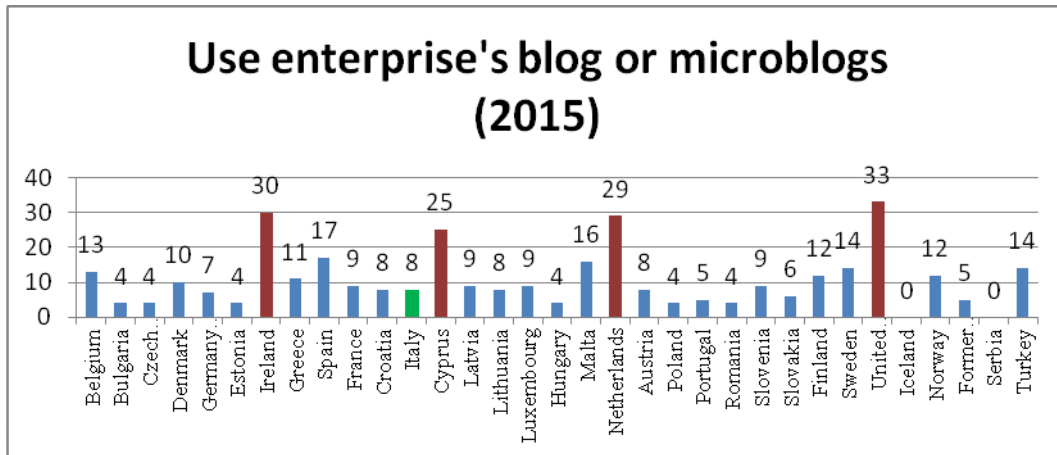


Figure 7: Use of multimedia content sharing websites in enterprises by country (year 2015)

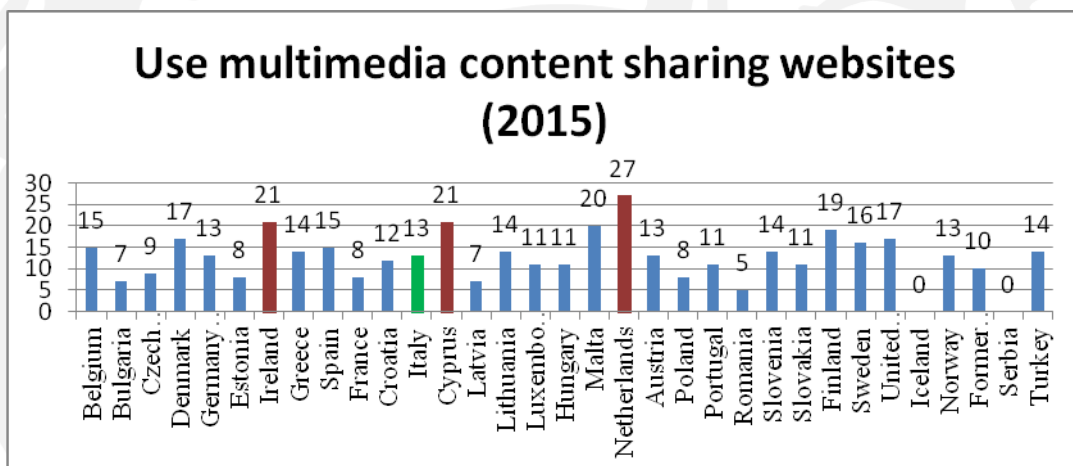
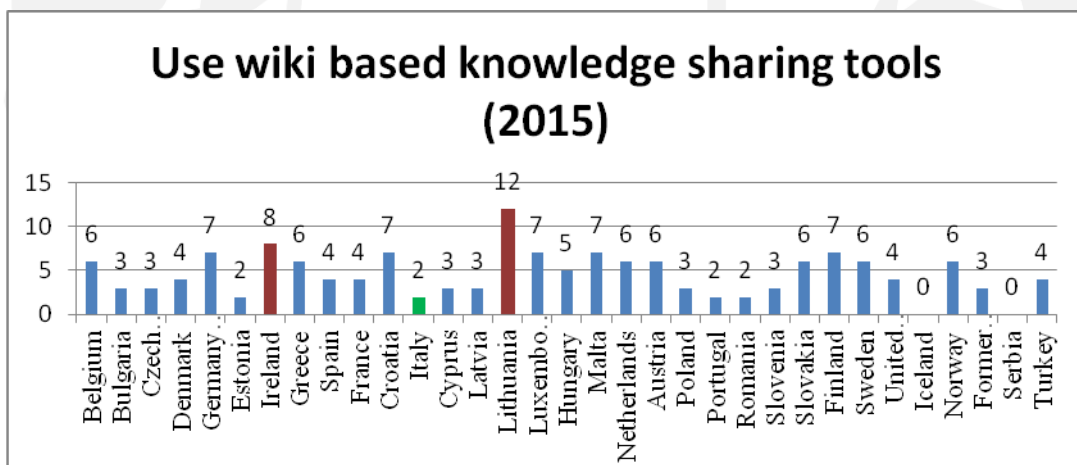


Figure 8: Use of wiki based knowledge sharing tools in enterprises by country (year 2015)





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1.2.2 Social media use by purpose

The EUROSTAT survey provides interesting information on the purposes for which enterprises use social media. For example, social media can be used to reach the ‘outside world’ — customers, business partners or other organisations — or to improve the internal communication or also to recruit more efficiently . Different types of social media can moreover be used for different purposes.

Specifically, the survey allows us to compare the following purposes:

- develop the enterprise's image or market products (e.g. advertising or launching products, etc);
- obtain or respond to customer opinions, reviews, questions;
- involve customers in development or innovation of goods or services;
- collaborate with business partners (e.g. suppliers, etc.) or other organisations (e.g. public authorities, non governmental organisations, etc.);
- recruit employees;
- exchange views, opinions or knowledge within the enterprise.
- We focus here only on the purposes listed in Table 2. In the next chapter, a more accurate analysis at micro-level will be provided. Also in this case, all variables are measured as percentage of enterprises.

Table 2a: List of variables. Souce: EUROSTAT, 2015.

ICT component	Variable
Social media use by purpose	Develop the enterprise's image or market products
Social media use by purpose	Obtain or respond to customer opinions, review questions
Social media use by purpose	Involve customers in development or innovation of goods or services
Social media use by purpose	Collaborate with business partners (e.g. suppliers, etc.) or other organisations

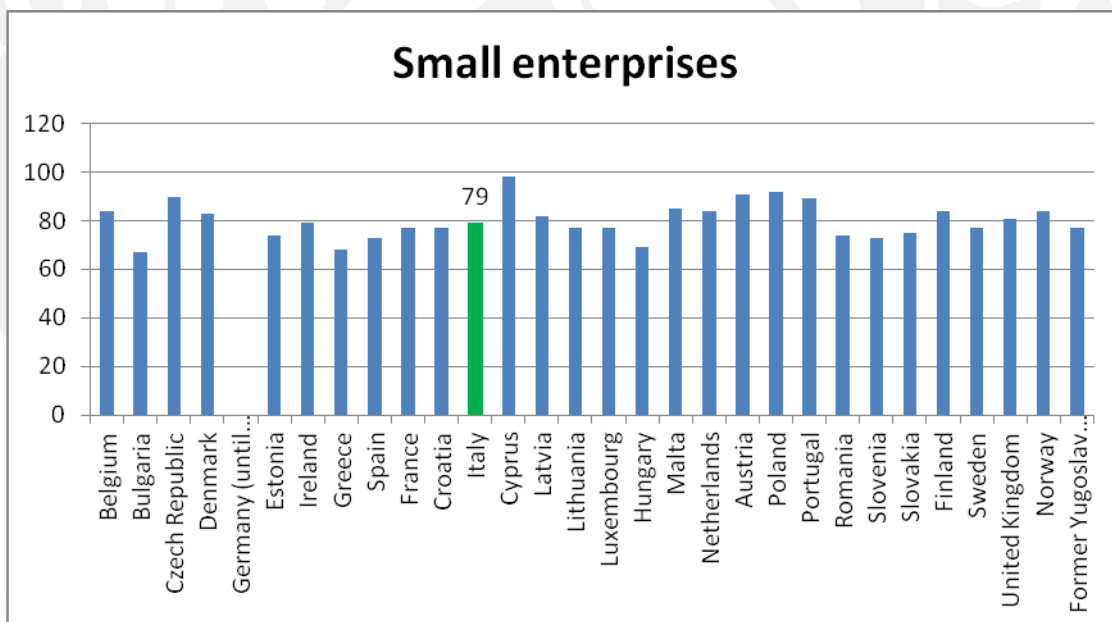


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In the rest of the paragraph, we provide some descriptive analysis of specific purposes in using social media by means of a visual inspection. Since the purposes can relevantly depend on the firm size, we separately consider the three standard sizes (small, medium, large).

Figure 9 shows the percentage of enterprises that use social media to “develop the enterprise's image or market products”. The percentage seems not particularly affected by firm size. Indeed, the European average is 79%, 81% and 81% respectively for small, medium and large size enterprises. In all cases, the Italian values are slightly below the average.

Figure 9: Develop the enterprise's image or market products in small enterprises using social media





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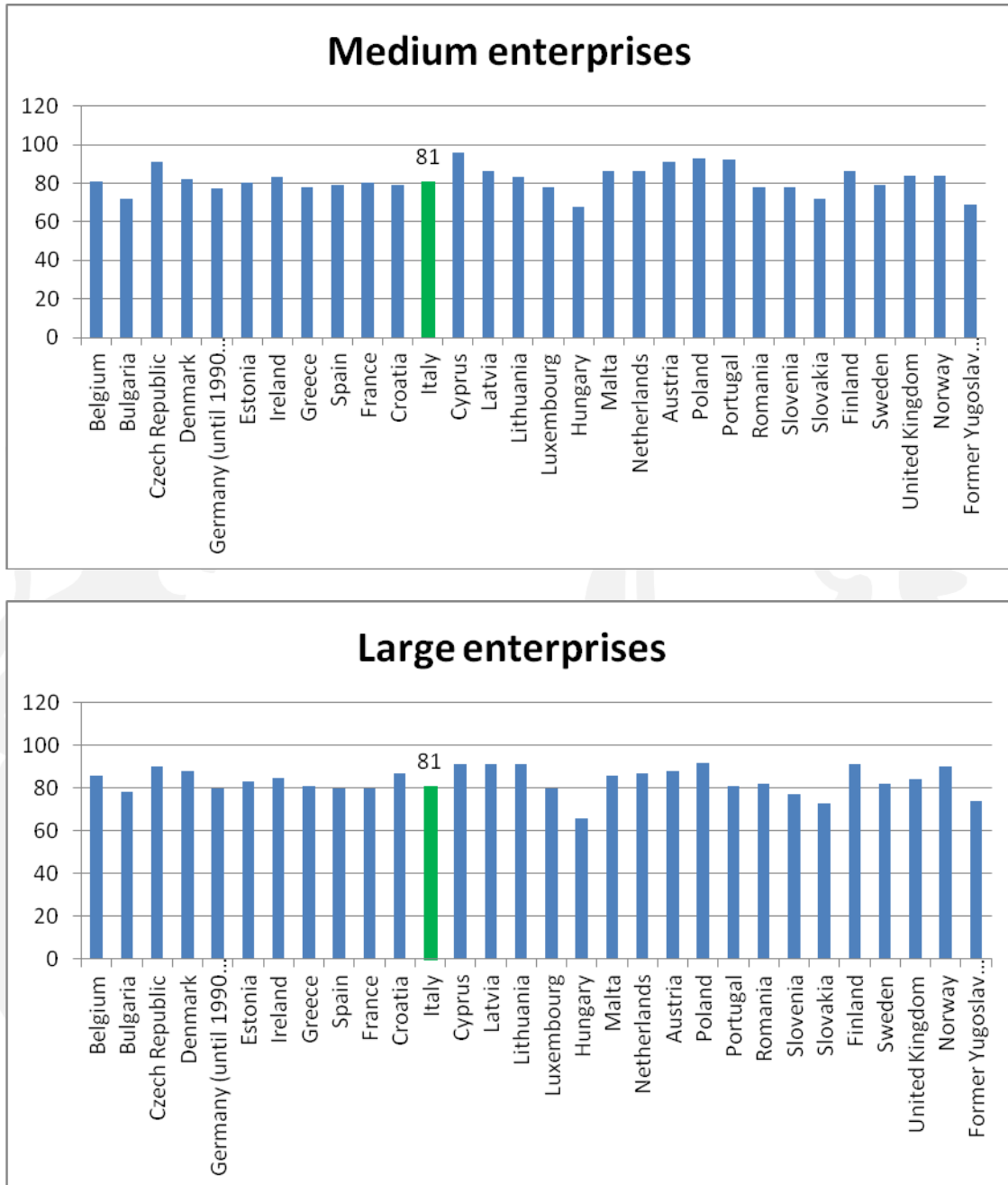
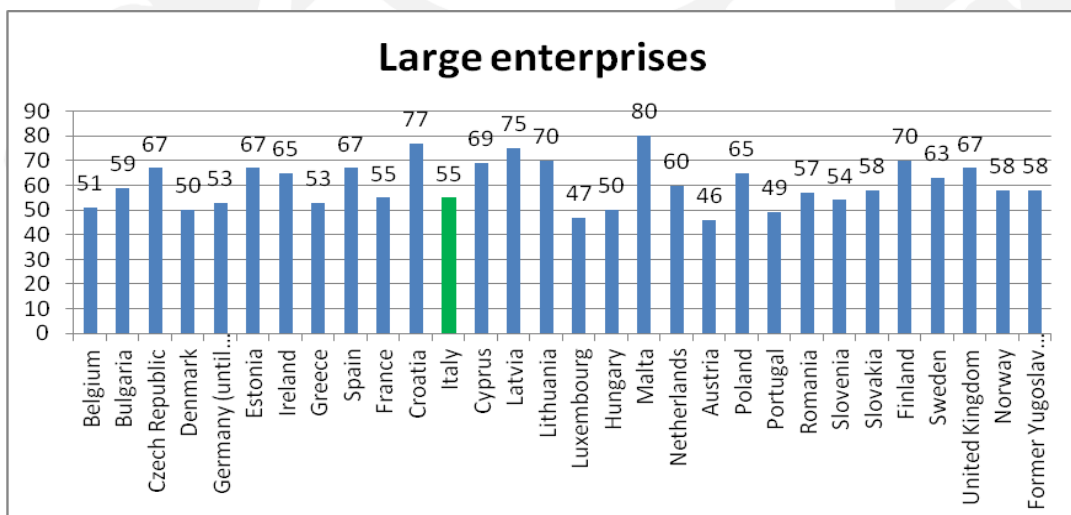
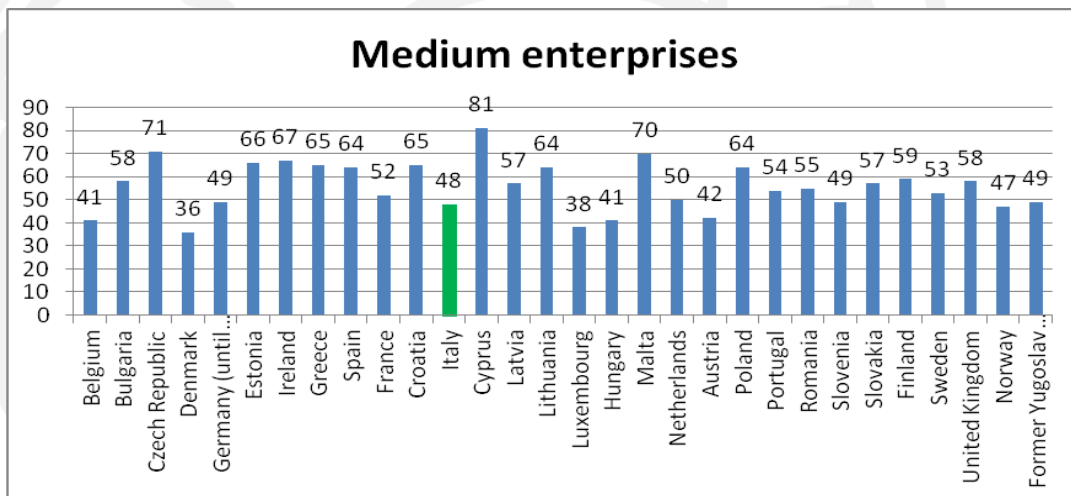
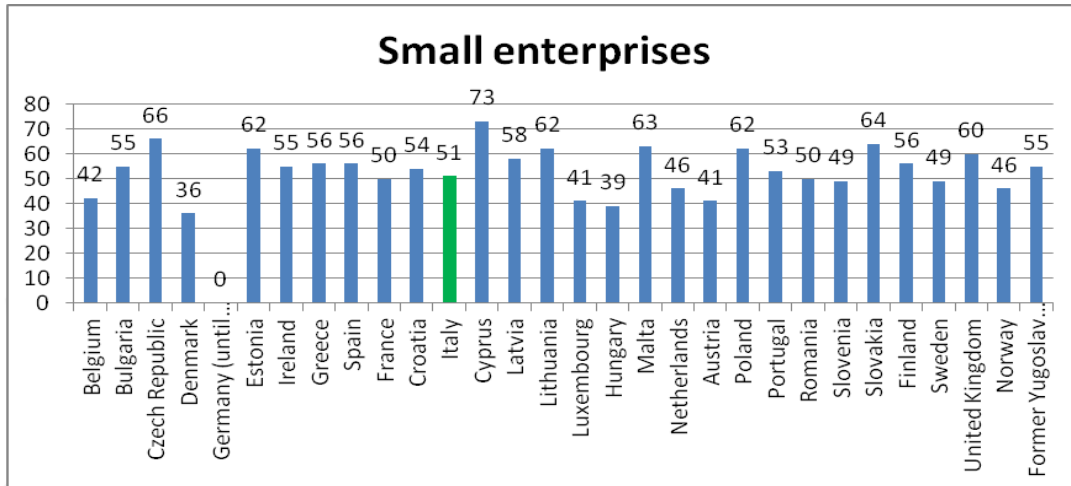


Figure 10 shows the percentage of enterprises that use social media to “Obtain or respond to customer opinions, reviews or questions”. The percentage seems not particularly affected by firm size. Indeed, the European average is 51%, 48% and 55% respectively for small, medium and large size enterprises. In all cases, the Italian values are slightly below the average.



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Figure 10: Obtain or respond to customer opinions, reviews questions in small enterprises using social media (2015)

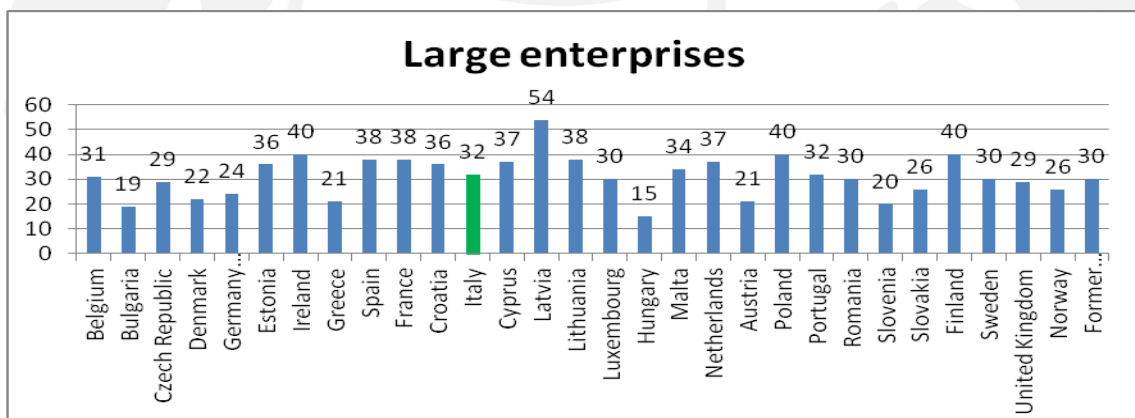
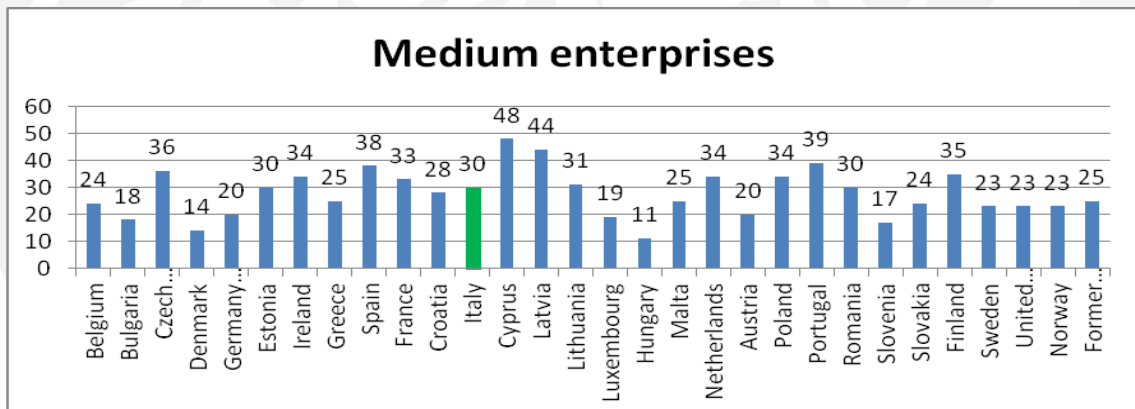
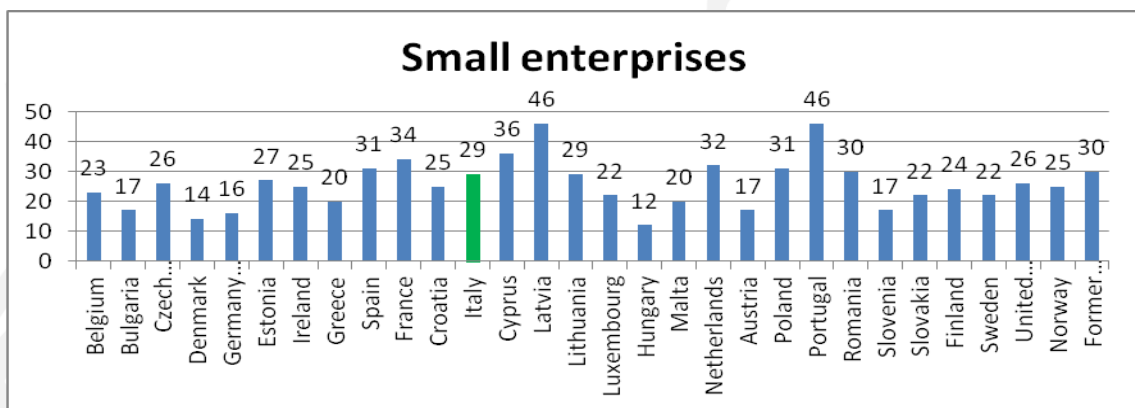




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Figure 11 shows the percentage of enterprises that use social media to “Involve customers in development or innovation of goods or services”. The percentage seems not particularly affected by firm size. Indeed, the European average is 28%, 30% and 32% respectively for small, medium and large size enterprises. In all cases, the Italian values are slightly higher the average.

Figure 11: Involve customers in development or innovation of goods or services in small enterprises using social media (2015)

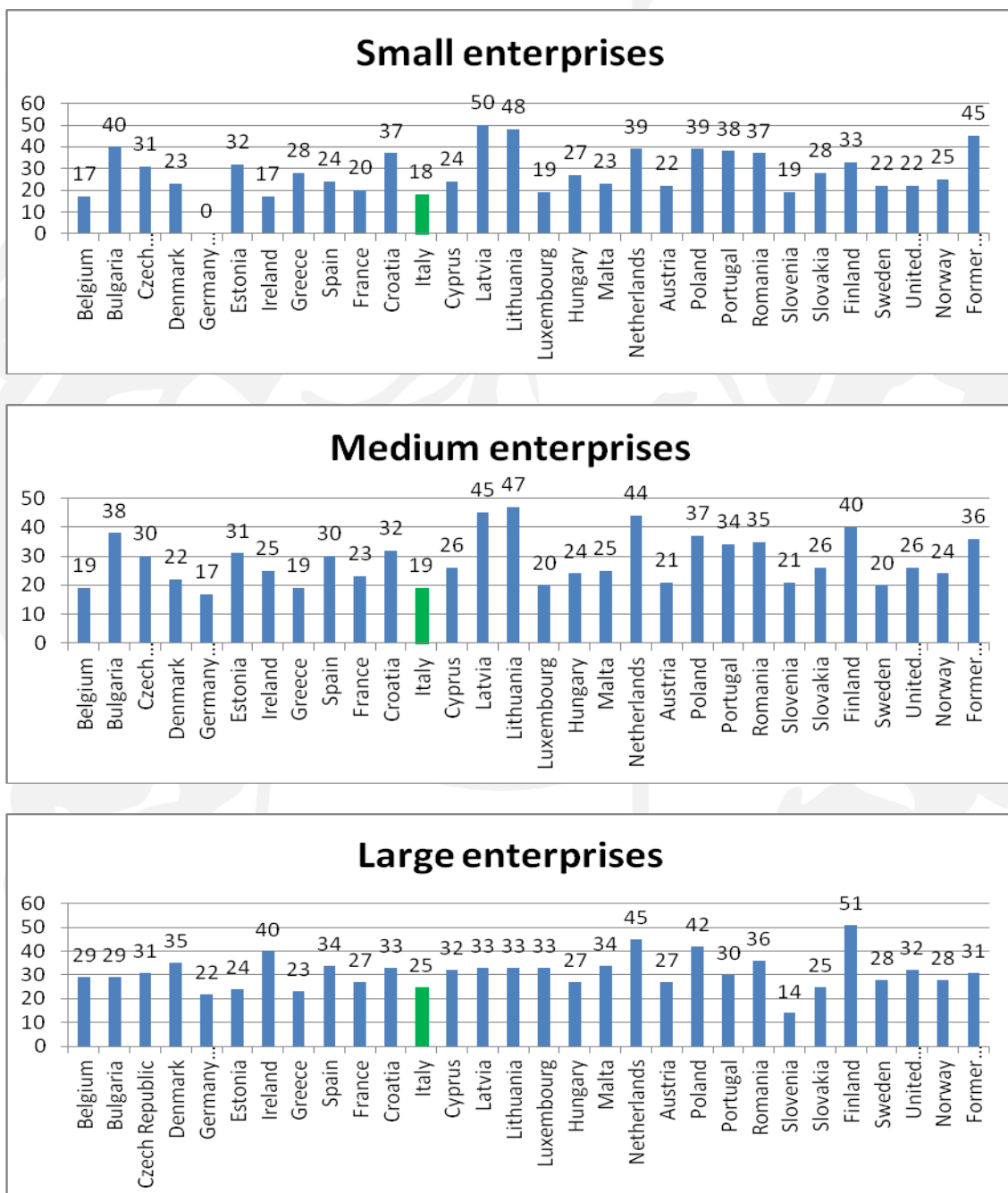




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Figure 12 shows the percentage of enterprises that use social media to “Collaborate with business partners (e.g. suppliers, etc.) or other organisations (e.g. public authorities, non governmental organisations, etc.)”. The percentage seems not particularly affected by firm size. Indeed, the European average is 18%, 19% and 25% respectively for small, medium and large size enterprises. In all cases, the Italian values are slightly below the average.

Figure 12: Collaborate with business partners or other organisations in small enterprises using social media (2015)





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1.3 Conclusions

In the last decade Social Media has transformed the way in which SME conduct business and develop social relationships. These changes have opened the opportunity for the emergence of new ways to commercialize services on these platforms, leading to the appearance of the social media entrepreneur.

European countries use Social Media with varying intensity and extensity. We note some interesting differences in specific purposes with respect to which enterprises decide to use social media.

Unfortunately, the position of Italy is almost always below the European average. In particular, we observe that only the 37% of Italian enterprises use social media of any typology; this value is below the European average (42%). The 23% of Italian enterprises use only one type of SM. This value is above the European average if we refer to the most developed Countries (22%) but not if we consider all European countries (25%). Only 14% of Italian enterprises use two or more types of social media. This value is below the European average (17%).

In conclusion, the use of social media in enterprises is in Italy still too limited with respect to other European countries. This can be seen as an obstacle to economic growth in Italy.

In this chapter, we also look at the purposes of using social media in enterprises.

Italian small, medium and large enterprises' percentages which use Social media to *develop the enterprise's image or market products* are less than the average of European Countries. The same situation applies with the purpose to *obtain or respond to customer opinions, reviews, questions*, in which small, medium and large enterprises percentages are less than the average of European Countries.

There is a different situation for the purpose *involve customers in development or innovation of goods or services*, in which small, medium and large enterprises percentages are higher than the average of European Countries.

Italian small, medium and large enterprises' percentages which use social media to *collaborate with business partners or other organisations* are the average of European Countries.



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In conclusion, the use of social media by purpose in Italian enterprises is different with respect to other European countries. The most important purpose for enterprises in Italy is *involve customers in development or innovation of goods or service*. The Italian size distribution is also skewed towards smaller firms, so it is possible that small enterprises use SM like a direct instrument to be in contact with customers.





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Chapter II

THE USE OF SOCIAL MEDIA: EVIDENCE FROM ITALIAN ENTERPRISES

2.1 Introduction

Literature on the use of Social Media (SM) in Italian enterprises is still limited, notwithstanding the important role that SM can have for economic growth in a country like Italy where the number of small and medium enterprises is relevant.

In this chapter, we want to provide new evidence on the use of SM in Italian enterprises, focusing the attention on the heterogeneity across firms not only in the use of specific SMs but also in the aims for which SMs are employed. Moreover, we want also to focus on differences across firms located in different Italian NUTS1 regions.

To this end, we exploit data collected by ISTAT on enterprises with more than 10 employees. This survey is the Italian section of the “*Community survey on ICT usage and e-commerce in enterprises*” and also in this case we refer to the year 2015.

As said in the previous chapter, this survey was initially focused only on e-commerce, internet access and the questions of connectivity, but its scope has been widened subsequently to include a wider variety of topics, such as: cloud computing, ICT specialists and outsourcing of ICT functions, Social Media usage (Eurostat, 2017).

The survey, coordinated across countries by EUROSTAT, is based on a representative sample of enterprises with more than 10 employees, stratified by sector, size and geographical area. The Italian dataset collects information on a sample of about 19,000 firms. We particularly focus on the variables related to Social Media usage and its purposes.

Social Media are applications based on internet technologies or communication platforms to connect, create or exchange content online with clients, suppliers/partners or inside the company itself in the exercise of different activities, such as using Social Network Sites (Facebook, LinkedIn, Xing, Viadeo, Yammer, etc.), blogs (Twitter, Present.ly, etc.), sites



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where multimedia content can be exchanged (YouTube, Flickr, Picasa, SlideShare, etc.) or wiki (Ruiz-Rodríguez, Lucendo-Monedero & Gonzalez-Relano, 2018).

Social Media has become a part of our daily lives. Consumers and enterprises both use SM as a way of communication, a way to stay connected and a channel to report and discuss on important topics. They have changed the way people think, act and communicate. We can stay connected every day to our friends on the other side of the world in a few seconds, watching TV-shows on the bus and reading the news everywhere. Social Media has also changed the way people view firms (Ruehl et al., 2017).

Consequently, there are easier ways to reach organizations, asking questions and even applying for job openings through website chats. The way in which companies communicate about themselves on SM is more open and sensible than before, thanks to this new type of Information and Communication Technologies. Through Social Media companies can communicate to their SM followers using a carefully thought out marketing strategy (Treem & Leonardi, 2016).

In the previous chapter, we have seen that Italy is still behind in the technological update process, i.e. in spreading wide-band communication and supporting the potential for wider applications of ICTs, and this may be an obstacle to reach higher productivity and lower cost of production (Lucchese, Nascia & Pianta, 2016).

The use of SM is related to the use that enterprises of Italian regions make of more sophisticated Information and Communication Technologies, which require a greater effort in staff training (Rovira, Santoleri, & Stumpo, 2013).

In this chapter, we aim specifically to provide answers to the following questions:

- Does the use of SM depend on main firm characteristics (i.e. size, sector, geographical localization)?
- Does the use of SM depend on employees' skills, their training and the technological endowment they can use?
- Does the use of SM depend on external infrastructures?

All these research questions also investigate the use of specific SM and in relation to specific purposes for which they are used.



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The chapter is organised as follows. In the second paragraph, we introduce a review of literature about SM usage in Italian enterprises. In the third paragraph, we describe the variables employed and provide some descriptive statistics. Finally, the fourth paragraph includes empirical results and concluding remarks.

2.2 Literature on Social Media usage in Italian enterprises

The ICT revolution has been an important determinant of productivity growth in other developed countries since the mid-1990s (Fernald, 2014; Gordon, 2016). In Italy, however, it has made relatively little headway.

Since the middle of the 1990s, Italy's evolution process with respect to other advanced economies has ended, and output per capita has slowed down. One possible reason for this situation is the failure of Italian enterprises to take up the Information and Communication Technologies revolution (Schivardi & Schmitz, 2017). The slow ICT revolution may be due to inefficient management, lowering the adoption rate and the productivity of ICT technologies.

In the first chapter, we showed that Italian adoption rates are lower for a range of ICT technologies in comparison to other European countries.

Chiarvesio et al. (2004), looking at a sample of Italian medium-sized firms, show a clear gap between commodity technologies and project-based solutions.

Pellegrino and Zingales (2017) explain why Italy's labour productivity stopped growing in the mid-1990s. They suggest that Italy's slowdown was more likely caused by the failure of its firms to take full advantage of the ICT revolution. While many institutional features can account for this failure, a prominent one is the lack of meritocracy in the selection and rewarding of managers.

In the European Commission's 2016 Digital Economy and Society Index, Italy ranks 15th out of 19 Eurozone countries for the integration of digital technology in enterprises. Maybe, the low ICT revolution and its comparatively small impact on productivity also depend on lower efficiency of Italian firms management practices (Schivardi & Schmitz, 2017).



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This appears to be due to ICT demand rather than ICT supply factors and, in particular, to the unequal management practices of Italian firms. Finally, Italian adoption of technologies which are useful to firms (such as software for supply-chain management - SCM) is lower than other countries. The supply-chain management (SCM) adoption choice of firms is positively correlated with the presence of large firms in the same industry and region before the ICT revolution, suggesting that SCM adoption by (large) final producers spills over to their (smaller) suppliers, but in Italy the presence of large firms is lower than other European countries (Schivardi & Schmitz, 2017).

Another study shows that the inefficiency of management at national level is given by the prevalence of small firms in Italy, due to the size-dependent regulations. It could explain the Italian low Information and Communication Technologies adoption rates (Garicano, et al., 2013).

However, while there is evidence that size-dependent regulations are important in other countries such as France (Garicano et al., 2013), there is only a marginal effect for the Italian firm size distribution (Schivardi & Torrini, 2008). Italian size distribution is also skewed towards smaller firms, and this is an endogenous consequence of low management and ICT productivity, which do not allow the largest firms to expand as much and therefore lower competitive pressures on smaller and less efficient firms (Schivardi & Schmitz, 2017).

Finally, other studies have explained Italian productivity slowdown, citing increasing misallocation (Calligaris, 2015; Calligaris et al., 2016), implicit subsidies to low-skilled labour (Daveri & Parisi, 2010) and worsening governance (Gros, 2011). The phenomenon of Italian slowdown is not monocausal, and we do not claim that the ICT revolution is its only driver.

Italian productivity growth has been lower than that of Northern Europe or the United States (Pellegrino & Zingales, 2014).

Another hypothesis is that Italy's low take-up of the ICT revolution is ultimately due to the inefficient management of its firms. This reason can affect ICT adoption through two channels. The first is direct and it is that lower managerial efficiency reduces the productivity of ICT technologies and the incentives to adopt them. The second is that smaller firm size reduces ICT adoption, due to the extended cost component of the



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adoption choice and to the network externalities that characterize some ICTs (Schivardi & Schmitz, 2017).

As shown by Bloom et al. (2016), the average quality of managerial practices employed by Italian firms is lower than other countries' firms. One possible reason for this difference is ownership and control differences between Italy and other countries' firms (Schivardi & Schmitz, 2017).

Bloom and Van Reenen (2007) show that firms owned and controlled by an individual or a family tend to display management practices of lower quality than firms with other ownership and control modes, such as: with dispersed shareholders, owned by a private equity fund, owned by a family but run by an external Chief Executive Officer (CEO).

As it turns out, for Italian family firms it is difficult to give the firm's control to managers external to the firm. While family ownership of firms is very common in most European countries (Bugamelli et al. 2012), Italy stands out for the share of family firms that are fully controlled by the owning family (i.e., that do not have any managers from outside that family). This is the case for two thirds of all Italian firms, whereas in France, Germany and the UK this happens for less than 30% of firms. This unusual fact suggests inefficiencies in the managerial delegation process in Italy.

One research shows that mainly small firms, in structural and economic terms, led by managers with a higher educational level, have become more involved in Social Media as shown by high values of intensity, richness, and responsiveness of the enterprises (Galati, Crescimanno, Tinervian & Fagnani, 2017).

In contrast to the last results, lower managerial efficiency can create a lower adoption rate of ICT. There is indeed ample evidence that ICT is complementary to skilled labour (Bresnahan et al., 2002; Caroli & Van Reenen, 2001), because highly educated managers help the enterprises' life.

Bloom et al. (2012), studying complementarity between management and ICT, find that firms with better managerial practices have a higher return from ICT adoption in terms of productivity growth. While complementarity represents a direct channel through which managerial efficiency can affect ICT adoption, the second channel refers to the size distribution. Given that managerial practices affect a firm's efficiency, they translate into



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differences in size: in fact, large enterprises need codified procedures and practices, so that good managerial practices are an essential ingredient of a firm's growth.

An implication is that average firm size should be larger in countries where firms employ better practices. Indeed, Eurostat's Statistics indicate that the average US firm has around 19 employees, the average German firm has around 12 employees, but the average Italian firm has less than 5. The ranking in terms of the size distribution is the same as that of managerial practices (Schivardi & Schmitz, 2017).

Maybe the role of low supply of ICT-related human capital or infrastructure plays a role, too. The availability of highly educated workers turns out to be a key factor (Lucchetti & Sterlacchini, 2004).

Over the last few years, many companies have integrated SM into their business, and social networking sites (SNSs) in particular. The way to use these tools is in their communication and media plan, leading to a deep transformation of the organizational models and changing the companies' marketing dynamics (Galati, Crescimanno, Tinervian & Fagnani, 2017). A large number of enterprises today adopt SM as a communication tool in order to both conduct their marketing efforts, to extend their traditional marketing (Dahnil et al., 2014; Oztamur & Karakadilar, 2014; Ruehl et al., 2017) and to reduce internal communication and marketing costs.

Italian small firms have several difficulties remaining competitive in the market and prefer commercial tools strictly linked to direct sales, in this way containing the rise of transaction costs incurred. So, Social media improve the efficiency of their communication processes with external parties, by helping to decrease transaction costs (information, negotiation, and monitoring costs), which are not negligible components of total company costs (Galati et al., 2015). Nevertheless, as shown by some authors, SM strategies are the most suitable tools for small and medium enterprises; although such firms are characterized by limited budget and low expertise, they can, thanks to their greater flexibility, compete with larger companies (Adegbuyi et al., 2015; Pentina et al., 2012). Social media, indeed, provide inexpensive promotional options with relatively low cost, compared to the costs necessary for communication in non-virtual media (Broekemier et al., 2015; Dehghani & Tumer, 2015; Papa et al., 2018).



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Literature on SM usage in Italian enterprises is very scarce, there are only a few researches on specific types of industries (Capitello, Agnoli, Begalli & Codurri, 2014; Galati, Crescimanno, Tinervian & Fagnani, 2017).

But some researches underline that SM and their application to the field of marketing have had a significant impact on business structures of enterprises, leading to a deep transformation of the organizational models and changing the firms' marketing dynamics (Wu, 2016, Kim et al., 2015). Use of SM in marketing strategies is only innovative in its means, not in its aims, which are to increase sales and enhance the enterprises' reputation (Paniagua & Sapena, 2014).

One research underlines that Social Media are quite common among Italian small enterprises, and they are not always able to use these tools in a truly profitable way (Cesaroni & Consoli, 2015). Social Media are often introduced because they are "fashionable", because companies feel "forced" to use them, as "all competitors do it". There is the existence of a wide range of different situations in the Italian framework: there are also other small businesses that are very open to the use of social channels and interactive technologies and able to take full advantage of their adoption. An entrepreneurs mentality makes a difference in these enterprises, and in particular his ability to conceive new ways of doing business and his willingness to get involved with new initiatives (Cesaroni & Consoli, 2015). This is the reason why, as we will see in the next chapter, we conducted a pilot study on psychological aspects of entrepreneurs. But, as we saw in the first chapter, Italy has different problems in the e-skills domain: the inadequate digital culture is the real barrier against a clear and consequent demand. Most enterprises' owners are old people who scantily understand the difficult task of internet and how the web implicates their business, communication and marketing as well.

The Italian situation is different also in online purchases. According to recent surveys, in Italy mistrust of online purchases still persists due to the following reasons: preference for physical contact with products; payment deemed unsafe; high shipping costs; long shipping times.

For example, in 2012, 29% of Italian Internet users bought online, while the European average was 59%. For this reason there would be a lot of room to develop "e-commerce",



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if that was supported by adequate web marketing and by utilising the latest web technologies (Scuderi & Sturiale, 2015).

So, it is possible to underline that the causes for Italy's lowest ICT revolution can be due to different factors related to the management, the size of the enterprises, the age of owners and the customers' experiences.

2.3 Description of Italian survey on "ICT usage in enterprises"

2.3.1 Data

The Italian survey on "ICT usage in enterprises" collects information on the adoption of ICT, broadband Internet connection, website functionalities, the impact of new technologies on the relationships with customers and suppliers (sharing information electronically on Supply Chain Management, exchanging automatically business documents), organizational and marketing aspects (sharing electronically information on sales and/or purchases with any internal function, using applications to analyse information collected on clients), e-commerce and e-government. Data considered in this chapter refers to the year 2015 and includes information on a sample of about 19,000 Italian enterprises with 10 and more employees.

We will focus on variables related to Social Media usage and the purposes to use them. In the survey, only two variables are used to measure the SM usage in the enterprises:

C10: Does your enterprise use any of the following social media?

- Social networks (e.g. Facebook, LinkedIn, Xing, Viadeo, Yammer, etc.)
- Enterprise's blog or microblogs (e.g. Twitter, Present.ly, etc.)
- Multimedia content sharing websites (e.g. YouTube, Flickr, Picasa, SlideShare, etc.)
- Wiki based knowledge sharing tools

C11: Does your enterprise use any of the above mentioned social media to:

- Develop the enterprise's image or market products (e.g. advertising or launching products, etc)
- Obtain or respond to customer opinions, reviews, questions
- Involve customers in development or innovation of goods or services



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- Collaborate with business partners (e.g. suppliers, etc.) or other organisations (e.g. public authorities, non governmental organisations, etc.)
- Recruit employees
- Exchange views, opinions or knowledge within the enterprise

The research questions that we investigate, exploiting data characteristics, are:

- RQ1: the probability to use at least one Social Media depending on firm's characteristics (e.g. geographical localization; sector; size; skills of employees; training of employees; technological endowment; technological external infrastructures);
- RQ2: the probability to use one or more specific Social Media depending on the same set of firm's characteristics;
- RQ3: the probability to use Social Media for a specific purpose depending on firm's characteristics (i.e. size, sector, regions).

We can therefore divide a firm's characteristics into two groups: external and internal determinants. The external factors are here measures by means of broadband connection download speed (it includes less than 2 Mbit/s, at least 2 but less than 10 Mbit/s, at least 10 but less than 30 Mbit/s, at least 30 but less than 100 Mbit/s, at least 100 Mbit/s), while a richer set of internal factors can be employed:

- Human resources: includes presence of employed ICT specialists and training to develop ICT related skills (both for ICT specialist and for others employees);
- Technological endowment: includes having a mobile broadband connection, having a Website and having a formally defined ICT security policy.

Table 2b – Table of internal and external factors

Internal Variables (Human resources)	Ict_Workers	Presence of ICT specialists.
	Training1	Training for ICT specialists
	Training2	Training for other persons employed
Internal Variables (Technological endowment)	Mobile	Use of a Mobile Connection
	Web_Site	Use of a Website
	Security	Use of measures, controls and procedures applied on ICT systems.
External Variables	Broadband Connection Download Speed	Broadband1: Less 2 Mbit/s
		Broadband2: at least 2 but less than 10 Mbit/s
		Broadband3: at least 10 but less than 30 Mbit/s
		Broadband4: at least 30 but less than 100 Mbit/s
		Broadband5: at least 100 Mbit/s



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Finally, some control variables are used as determinants like: size, sector and geographical localization. In particular, we use NUTS1 regions (i.e. North-West, North-East, Centre; South and Islands) to measure the geographical localization of firms; the sectors of activity are divided into 4 categories (i.e. Manufacturing, Energy, Building and Services); the size is measured by four categories: small enterprises (from 10 to 49 employees), medium-small enterprises (from 50 to 99 employees), medium-large enterprises (from 100 to 249 employees) and large enterprises (250 or more employees).

In order to carry out the empirical analysis, we use Probit and Multivariate Probit Models where the probability to make a decision can be estimated as dependent on a set of determinants. The list of variables is in APPENDIX 1. In the next paragraph, we provide some descriptive analysis on some main variables listed above.

2.3.2 Descriptive analysis

In Table 3, we note that firms that use Social Media are 7930, i.e. 41% of full sample. Within each region, there is a similar percentage composition between users and non-users. Obviously, most of users are located in the North-West where are also located most of the Italian firms.

In other words, the adoption of SM seems to be a phenomenon characterised by a certain degree of homogeneity across Italy.

Table 3 – Social Media usage in enterprises by Italian regions

	Social Media		Total
	Yes	No	
North-West	3031	4336	7367
%	41.14	58.86	100
North-East	2284	2834	5118
%	44.63	55.37	100
Centre	1339	1993	3332
%	40.19	59.81	100
South	1276	2,155	3431
%	37.19	62.81	100
Total	7930	11318	19248
%	41.2	58.8	100



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Table 4 shows a more intensive use of Social Media in Services and in Manufacturing sectors, the percentage is near to 50%. In the industries of Energy and Building, firms instead use SM with a less intensity, the percentage is less than 30%.

Table 4 – Social Media usage in enterprises by sector of activity

	Social Media		Total
	Yes	No	
Manufacturing	1991	2683	4674
%	42.6	57.4	100
Energy	378	998	1376
%	27.47	72.53	100
Building	686	2205	2891
%	23.73	76.27	100
Services	4875	5432	10307
%	47.3	52.7	100

As expected, the percentage of firms which use Social Media increases with firm size (see Table 5). In the subsequent analysis, we will evaluate whether the probability of adopting SM in enterprises depends significantly in statistical terms on size. With respect to other technologies, SM should be more widespread in smaller firms.

Table 5 – Social Media usage in enterprises by size of firm

	Social Media		Total
	Yes	No	
small	4583	8127	12710
%	36.06	63.94	100
medium_small	824	1074	1898
%	43.41	56.59	100
medium_large	1053	1095	2148
%	49.02	50.98	100
large	1470	1022	2492
%	58.99	41.01	100



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Table 6 – Social Media usage in enterprises by typology

Facebook-type	Number of Firms	% value
Yes	7361	38.24
No	11887	61.76
Twitter-type		
Twitter-type	Number of Firms	% value
Yes	2307	11.99
No	16941	88.01
YouTube-type		
YouTube-type	Number of Firms	% value
Yes	3366	17.49
No	15882	82.51
Wiki-type		
Wiki-type	Number of Firms	% value
Yes	943	4.90
No	18305	95.10

Table 6 provides information on the number and typologies of SM used by firms. 52% (4150) of SM users use only one Social Medium. The 46% (3640) of SM users use only SM Facebook-type. Many SM users use Facebook-type SM jointly with other typologies, especially jointly with YouTube-type (see Table 7). Considering the large number of joint usage of SM, one cannot assume independence in the decision to use SM of different typologies. Therefore, Multivariate Probit (MvProbit) seems to be an appropriate tool of analysis.



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Table 7 – Social Media usage by number of types in Italian firms

Number of Social Media	Type of Social Media	Number of Firms
1	Facebook-type (F)	3640
	Twitter-type (T)	46
	YouTube-type (Y)	320
	Wiki-type (W)	144
2	F / T	520
	F / Y	1198
	F / W	156
	T / Y	16
	T / W	6
	Y / W	34
3	F / T / Y	1247
	F / T / W	52
	F / Y / W	131
	T / Y / W	3
4	F / T / Y / W	417
Total		7930

Table 8 refers to the purposes with respect to which firms decide to use SM. There are six different purposes considered in the survey:

- *Marketing*. SM used to develop the enterprise's image or market products, e.g. advertising or launching products, etc.;
- *Customers*. SM used to obtain or respond to customer opinions, reviews, questions;
- *Innovation*. SM used to involve customers in development or innovation of goods or services;
- *Cooperation*. SM used to collaborate with business partners (e.g. suppliers, etc.) or other organisations (e.g. public authorities, non-governmental organisations, etc.);
- *Job Market*. SM used to recruit employees;
- *Employees*. SM used to exchange views, opinions or knowledge within the enterprise.

The 79,65% of Italian enterprises have declared to choose Social Media for developing the enterprise's image or market products (*Marketing*) and the 50,09% for obtaining or respond to customer opinions, reviews, questions (*Customers*). A small percentage of Italian enterprises choose to use SM for other purposes (see Table 8). The 31,63% (1421) of



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enterprises use Social Media only for the *Marketing* purpose. The 6,92% (311) of enterprises use Social Media for both *Marketing* and *JobMarket* purposes. The 13,37% (601) of enterprises use Social Media jointly for *Marketing*, *Customers* and *Innovation* purposes. Therefore, *Marketing* is the purpose for which most firms decide to use SM. However, many firms decide to adopt a more complex strategies in the use of SM (see Table 9).

One purpose cannot be assumed as independent of every other one. Therefore, the Multivariate Probit Model (MvProbit) seems to be, also in this case, the most appropriate tool of analysis.

Table 8 – Social Media usage by purpose in Italian firms

Marketing	Number of Firms	% value
Yes	6,315	79.65
No	1,613	20.35
Customers	Number of Firms	% value
Yes	3,971	50.09
No	3,957	49.91
Innovation	Number of Firms	% value
Yes	2,475	31.22
No	5,453	68.78
Cooperation	Number of Firms	% value
Yes	1,741	21.96
No	6,187	78.04
JobMarket	Number of Firms	% value
Yes	2,116	26.69
No	5,812	73.31
Employees	Number of Firms	% value
Yes	1,930	24.35
No	5,996	75.65



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Table 9 – Social Media by purpose in enterprises by purposes

Number of aim	Type of aim	Number of Firms
1	Marketing (M) Customers (C) Innovation (I) Cooperation (Co) JobMarket (J) Employees (E)	1421 91 29 68 179 116
2	M/C M/I M/Co M/J M/E C/I C/Co C/J C/E I/Co I/J I/E Co/J Co/E J/E	940 199 101 311 120 28 17 14 29 9 7 8 21 22 44
....
5	M/C//I/Co/J M/C//I/Co/E M/I/Co/J/E M/C/Co/J/E M/C/I/J/E C//I/Co/J/E	106 179 18 66 114 3
6	M/C/I/Co/J/E	337

2.4 Empirical Results

As we said in the previous paragraph, we aim to explore how the probability of using a SM, at generic or specific level, and of using SM for some specific purposes may depend on some firm's characteristics.

To this end, we use a Probit Model in the case of the probability of using a generic SM and Multivariate Probit Model in the case of multiple decisions, i.e. to decide using jointly more than one SM or to use them for more than one purpose.



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Table 10 provides the estimates referring to the probability to use at least one SM (column 1) and that to use one or more specific SM (columns 2-5). In this last case, the model is estimated in multivariate framework, i.e. it is assumed dependence in the decision to jointly use different types of SM. This dependence is captured in the stochastic part of the model. From column 1, we can note that the probability to use at least one SM significantly but not strongly depends on the firm size. In this case, small sized firms have higher probability to be SM-user than medium-large sized, while other significant results have not emerged comparing the remaining categories.

Firms operating in Energy and Building sectors have small probability to be SM-user than ones in Manufacturing industry, here taken as reference category. Firms in Services have instead higher probabilities to use SM than ones in Manufacturing.

Unexpectedly, in the column 1 of Table 10, we find that firms located in the North-East, the Centre and the South of Italy have higher probabilities to use SM than firms in the North-West. Therefore, geography influences the usage of Social Media. This may depend on the fact that SM is a specific typology of ICT, characterised by lower costs of using with respect to other technologies. So, considering that in south Italy there are more small industries than North Italy, these enterprises can use SM like a way to overtake economic obstacles. In this way, peripheries (not only in geographical but also in economic terms) can easily reach the core.

Regarding the internal and external firm's characteristics, we observe a significant and positive influence of employees specialised in ICT (*ict_workers*) and training at all employees (*training1*) and specifically at ICT specialized employees (*training2*) on each typology of SM. This evidence points out the importance of specialised human resources and the training in order to increase the probability to adopt new technologies like the social media. This result is in line with the literature that finds the significant role of "quality of employees" (e.g. managers with higher levels of education) on the economic success of firms (see Galati, Crescimanno, Tinervian & Fagnani, 2017). There is moreover ample evidence for the fact that technological endowment is absolutely complementary to skills of employees (Bresnahan et al., 2002; Caroli & Van Reenen, 2001).

We here use as proxy of technological endowment the following variables: the firm has at least one mobile broadband connection (*mobile*); the firm has a website (*web_site*); the



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firm has a formally defined ICT security policy (*security*). We find significant and positive effects of all these variables in almost all regressions in Table 10.

Finally, we also look at the impact of external technological infrastructures. Specifically, we observe the effects of broadband connection availability (*broadband*). This variable is organized into 5 categories, each of them with an increasing download speed. We find that the higher download speed connections increase the probability to use SM in enterprises. This result is coherent with some evidence in literature on the impact of broadband connection on economic growth. In general, literature finds a positive relationship that depends on the fact that better connections allow firms to use more easily technologies and to become more productive. For example, Qiang and Rossotto (2009), looking at the impact of broadband on long-term economic growth in the period 1980 to 2006, find that a 10% increase in broadband penetration yields a 1.21% variation in economic growth in developed countries, and 1.38% in developing countries. Czernich et al. (2011), estimating the effect of broadband infrastructure on economic growth during the period 1996- 2007, find that a 10% increase in broadband penetration raises annual per capita growth by 0.9-1.5 percentage points.

In columns 2-5 of Table 10, we estimate a Multivariate Probit Model with the aim of looking at the use of specific social media. This estimation methodology is used because the decision to use one social medium cannot be assumed independent of the decision to also use other social media. The analysis aims to observe differences in the effects of covariates with respect to the typology of social media used by the firm. We find that smaller firms are more likely to use Face-type SM while larger firms more probably use the other types. In particular, Wiki-type SM are more likely to be used by the largest firms. We do not find important differences regarding the sector of activity. We note that operating in Energy and Building sectors significantly decreases the probability to use Facebook-type and YouTube-type SM with respect to operating in Manufacturing, here used as reference variable. However, operating in the Energy sector increases the probability of using Twitter-type SM. Finally, operating in Services increases the probability of using each type of SM, except for YouTube-type.

Interesting results are obtained in relation to the region where firms are located. We find that firms located in the South have a higher probability to use Facebook-type social media



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which respect to firms in the North-West. But the same result is not obtained for the other types of SM. On the contrary, we find that being localized in the North-East increases the probability to use almost all typologies of SM, only exception is the Wiki-type. Referring to variables related to human resources (*ict_workers*, *training1* and *training2*) and the technological endowment (*mobile*, *web_site* and *security*), all these variables have a significant and positive effect on SM usage and on chosen SM type. Finally, the availability of speedier broadband connections significantly and positively influences all typology of SM. However, the probability to use Wiki-type increases only for the highest levels of connections (*broadband4* and *broadband5*).

Table 11 provides evidence on the purposes with respect to which firms decide to use one or more SM. Due to the same reasons, the Multivariate Probit Model seems to be a more proper tool also in this case. We find that large firms use SM with higher probability for recruitment (*Recruitment*) and to receive feedback from customers (*Customers*). On the other hand, smaller firms use SM with higher probability to involve customers in their innovative activity (*Innovation*) and to find collaboration with other firms or Institutions (*Cooperation*). Looking at the sector of activity, we find that firms operating in Services use SM with higher probability for each of purposes here investigated. The Energy sector instead uses SM with higher probability for Innovation and Cooperation purposes, the Building sector for Cooperation and Recruitment purposes.

Only apparently unexpected, firms localized in the South use SM with higher probability for each typology of purpose. This means that they do not have a specific strategy in using SM. This is in line with the evidence that they prevalently use Facebook-type SM which is largely widespread but it is more generic in the aims with respect to other types of SM.

The presence of ICT specialised employees (*ict_workers*) increases the probability to use SM for Cooperation and Recruitment purposes, but decreases that for Marketing and Customers purposes. *Training* has a positive influence especially for Cooperation and Recruitment purposes, and to improve communication across employees inside the firm (*Employees*). We find that *Mobile* particularly increases the probability to use SM for *Recruitment* and *Employees* purposes, while *Web_site* particular increases the probability to use SM for *Marketing*, *Customers* and *Innovation* purposes.

Finally, *Broadband* is not particularly significant except for the case of *Recruitment*.



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Table 10 – Determinants of Social Media usage by typology in Italian firms

VARIABLES	Probit		Multivariate Probit		
	Social media	Facebook	Twitter	YouTube	Wiki
medium_small	-0.0444* (0.0338)	-0.0599* (0.0336)	0.0663 (0.0429)	0.0735* (0.0401)	0.0726 (0.0592)
medium_large	-0.0606* (0.0329)	-0.0700** (0.0329)	0.119*** (0.0414)	0.119*** (0.0373)	0.0262 (0.0541)
large	0.00335 (0.0342)	-0.0291 (0.0339)	0.246*** (0.0396)	0.206*** (0.0369)	0.153*** (0.0524)
Energy	-0.356*** (0.0433)	-0.373*** (0.0438)	0.173*** (0.0598)	-0.361*** (0.0532)	-0.199** (0.0883)
Building	-0.235*** (0.0358)	-0.228*** (0.0359)	0.392*** (0.0606)	-0.409*** (0.0484)	-0.0153 (0.0710)
Services	0.280*** (0.0244)	0.310*** (0.0244)	0.299*** (0.0314)	0.00607 (0.0279)	0.0759* (0.0421)
North-East	0.144*** (0.0248)	0.131*** (0.0248)	0.0522* (0.0314)	0.110*** (0.0288)	0.0149 (0.0433)
Centre	0.102*** (0.0290)	0.112*** (0.0290)	0.102*** (0.0369)	-0.00189 (0.0348)	0.0459 (0.0480)
South	0.185*** (0.0297)	0.206*** (0.0295)	0.0445 (0.0402)	-0.0378 (0.0369)	-0.0152 (0.0559)
ict_workers	0.285*** (0.0265)	0.233*** (0.0266)	0.268*** (0.0333)	0.356*** (0.0300)	0.372*** (0.0462)
training1	0.188*** (0.0367)	0.154*** (0.0359)	0.189*** (0.0402)	0.106*** (0.0382)	0.441*** (0.0477)
training2	0.166*** (0.0300)	0.149*** (0.0295)	0.120*** (0.0351)	0.176*** (0.0326)	0.113*** (0.0431)
mobile	0.182*** (0.0253)	0.155*** (0.0256)	0.245*** (0.0382)	0.254*** (0.0340)	0.317*** (0.0607)
web_site	0.912*** (0.0285)	0.932*** (0.0292)	1.035*** (0.0612)	0.950*** (0.0486)	0.0168 (0.0539)
security	0.0825*** (0.0217)	0.0643*** (0.0218)	0.163*** (0.0293)	0.132*** (0.0267)	0.308*** (0.0432)
broadband2	0.110** (0.0438)	0.0955** (0.0444)	0.0529 (0.0655)	0.0601 (0.0579)	0.0626 (0.101)
broadband3	0.157*** (0.0458)	0.149*** (0.0464)	0.195*** (0.0671)	0.171*** (0.0595)	0.114 (0.103)
broadband4	0.275*** (0.0511)	0.283*** (0.0516)	0.328*** (0.0715)	0.240*** (0.0641)	0.432*** (0.105)
broadband5	0.323*** (0.0540)	0.314*** (0.0544)	0.466*** (0.0737)	0.294*** (0.0673)	0.532*** (0.106)
Constant	-1.610*** (0.0549)	-1.663*** (0.0556)	-2.984*** (0.0929)	-2.387*** (0.0794)	-2.735*** (0.123)
Wald test	2611.08***		4506.80***		
Observations	18,433		18,433		

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1



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Table 11 – Determinants of Social Media purposes in Italian firms

VARIABLES	Multivariate Probit					
	Marketing	Customers	Innovation	Cooperation	Recruitment	Employees
medium_small	0.000770 (0.0580)	0.0416 (0.0506)	-0.0547 (0.0521)	-0.117** (0.0568)	0.292*** (0.0545)	0.0680 (0.0546)
medium_large	-0.0535 (0.0555)	0.0669 (0.0479)	-0.131*** (0.0504)	-0.218*** (0.0540)	0.241*** (0.0526)	0.00267 (0.0528)
large	-0.0251 (0.0559)	0.194*** (0.0483)	-0.100** (0.0500)	-0.154*** (0.0520)	0.406*** (0.0507)	0.0360 (0.0514)
Energy	-0.252*** (0.0786)	-9.17e-05 (0.0732)	0.239*** (0.0765)	0.465*** (0.0795)	-0.0302 (0.0862)	-0.00101 (0.0834)
Building	-0.379*** (0.0639)	-0.239*** (0.0624)	0.0498 (0.0650)	0.386*** (0.0667)	0.167** (0.0715)	0.0961 (0.0688)
Services	0.129*** (0.0413)	0.242*** (0.0361)	0.241*** (0.0381)	0.193*** (0.0414)	0.235*** (0.0405)	0.176*** (0.0403)
North-East	0.149*** (0.0416)	0.144*** (0.0362)	0.0330 (0.0377)	0.00876 (0.0406)	-0.191*** (0.0397)	-0.130*** (0.0402)
Centre	0.0514 (0.0482)	0.189*** (0.0430)	0.0489 (0.0446)	0.0490 (0.0471)	-0.240*** (0.0479)	0.0318 (0.0465)
South	0.182*** (0.0517)	0.310*** (0.0449)	0.228*** (0.0465)	0.117** (0.0494)	-0.213*** (0.0518)	0.163*** (0.0485)
ict_workers	-0.153*** (0.0442)	-0.0934** (0.0387)	0.0157 (0.0403)	0.155*** (0.0425)	0.290*** (0.0426)	0.0828* (0.0427)
training1	0.0456 (0.0546)	-0.00670 (0.0471)	0.0958* (0.0493)	0.135*** (0.0509)	0.327*** (0.0487)	0.189*** (0.0493)
training2	0.0852* (0.0472)	0.0649 (0.0403)	0.0205 (0.0425)	0.120*** (0.0439)	0.0558 (0.0429)	0.170*** (0.0427)
mobile	0.00127 (0.0481)	0.0139 (0.0416)	0.103** (0.0439)	0.0872* (0.0483)	0.223*** (0.0518)	0.219*** (0.0489)
web_site	0.976*** (0.0576)	0.532*** (0.0597)	0.356*** (0.0619)	-0.0567 (0.0634)	0.0329 (0.0699)	-0.0195 (0.0631)
security	0.0110 (0.0379)	0.106*** (0.0330)	0.116*** (0.0345)	0.192*** (0.0374)	0.193*** (0.0379)	0.195*** (0.0372)
broadband2	-0.0247 (0.0819)	-0.0892 (0.0744)	-0.177** (0.0765)	-0.153* (0.0816)	-0.0314 (0.0863)	-0.0948 (0.0805)
broadband3	0.0496 (0.0849)	-0.0356 (0.0765)	-0.0591 (0.0786)	-0.0177 (0.0838)	0.123 (0.0882)	-0.0934 (0.0829)
broadband4	-0.00213 (0.0911)	-0.0824 (0.0823)	-0.139 (0.0847)	0.0407 (0.0893)	0.257*** (0.0932)	-0.00117 (0.0886)
broadband5	0.0533 (0.0953)	-0.0634 (0.0852)	-0.0383 (0.0873)	0.0775 (0.0923)	0.296*** (0.0960)	0.0471 (0.0910)
Constant	-0.107 (0.106)	-0.772*** (0.101)	-1.074*** (0.105)	-1.137*** (0.111)	-1.500*** (0.119)	-1.182*** (0.109)
Wald test			1941.65***			
Observations	7,703	7,703	7,703	7,703	7,703	7,703

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1



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2.5 Conclusions

Social Media has transformed the way in which SME conduct business and develop social relationships. Use of SM is a very recent phenomenon and there are still few analyses, mainly concerning Italian enterprises.

Each Italian firm uses Social Media in a different way and levels, based on different firms' characteristics.

Regarding the variables that can influence Italian enterprises' usage of SM, we can enumerate different types of variables, but we have chosen some internal and external variables, based on data from previous literature that legitimized their importance in contexts of ICT use.

In our results, we saw that both external (broadband connection download speed) and internal characteristics (human resources and technological endowment) have a significant impact on SM usage. So, they are key factors in the enterprise ICT revolution. All the human resources also increase the probability to use SM for production oriented purposes, like collaborating with business partners or other organisations, recruiting employees and exchanging views, opinions or knowledge within the enterprise. Regarding technological endowment, having a website raises the probability to use SM for demand oriented purposes, like developing the enterprise's image or market products, to obtain or respond to customer opinions, reviews, questions and to involve customers in development or innovation of goods or services.

Contrary to what we expected, size does not matter in SM usage for Italian enterprises. The size is important for the choice of a specific SM, maybe because it is linked to the aim for using a specific Social Media. The results show that small sized firms use SM (specifically Facebook-Type) to involve customers in development or innovation of goods or services and to collaborate with business partners or other organisations: The reason can be that through this specific type of SM, small enterprises found the cheapest way to obtain innovation and cooperation. Maybe, with the growth of the size, enterprises have a more expensive way to improve their situation. For example, large enterprises (who have more probability to use other SM type), use SM to recruit employees. This purpose implies that the firm needs to have an ICT specialist for doing Job Market on Social Media. Probably,



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the widespread use of social media in the sSouth implies enterprises are not always able to use these tools in a truly profitable way.

Sector is also important in the choice of SM and the purpose. Services sector's firms have more probability to use all SM than other sectors; belonging to Services sector increases the probability to use SM for all purposes. Services firms are more able to use these interactive tools than other sectors, because these firms usually have ICT specialists.

This research on ISTAT database has highlighted the existence of a wide range of different situations in Italian enterprises. We saw that there are also enterprises that are very open to the use of social channels and interactive technologies and able to take full advantage of their adoption.

In this situation the entrepreneur's role makes a difference in these firms, and in particular his ability to conceive new ways of doing business and his willingness to get involved with new initiatives. For this reason, in the following chapter, we will describe a pilot study focused on entrepreneur's psychological characteristics.



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Chapter III

THE USE OF SOCIAL MEDIA FOR BUSINESS:

A PSYCHOLOGICAL PERSPECTIVE

3.1 Introduction

Enterprises have now been applying technologies based on the Internet, World Wide Web, apps and wireless communications to transform their businesses. Deploying these digital technologies has offered many opportunities for innovative business to transform their services.

In the Italian context, research relating to Social Media (SM) usage by small and micro firms has mainly measured the presence of these interactive tools. Very little is known about how Italian small and micro firms use Social Media and if they are really able to take advantage from their use.

However, micro enterprises, with less than 10 employees, represent a big percentage (30,4%) of Italian companies (ISTAT, 2014), and one of the major forms of employment of micro enterprises is represented by handicraft production. So, micro firms' ability to innovate and maintain their competitiveness, through an effective use of new web technologies, is very important to the competitiveness of the whole country.

It is generally acknowledged that at the centre of the entrepreneurial process stands the individual entrepreneur as key agent. It is therefore important to understand the entrepreneur's psychological characteristics if one wants to have a better understanding of the entrepreneurial process and related topics, like entrepreneurial success and failure (Hisrich et al., 2007).

The purpose of this study is to identify the factors determining enterprises' choice of Social Network Sites commerce or traditional business (specifically for handicraft producers). Based on literature relating to the theory of planned behaviour (TPB) and the Technology acceptance model (TAM), this study extends the applicability of both in Social Network Sites commerce context. It integrates existing psychological approaches to entrepreneurship and presents a model of specific entrepreneurship style.



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Data was gained by examining small-scale entrepreneurs that use Social Network Sites effectively for their business (Users) and those that do not (non-Users), specifically 217 handicraft producers in the South of Italy.

The results almost entirely support the extended TAM in TPB in predicting enterprises' behaviour and behavioural intentions to choose Social Network Sites commerce.

The reason for the choice of this subject is due to the current lack of Social Media use by many firms and more commonly the ineffective use of these interactive tools, as we saw in the previous chapters.

This pilot study focuses on the entrepreneur as an individual, the psychological aspect of entrepreneurship and the object is not to suggest a best way to conduct one's own business. Nevertheless, the economic aspect of entrepreneurship based on Social Media usage is extremely valuable also and it was included in the previous chapters.

3.2 Literature review

“Social media encompasses all the services that facilitate creation, sharing and exchange of user-created content” (Taprial & Kanwar, 2012, p. 6). Many entrepreneurs have adopted Social Media for their business and they are spending large amounts of time and spreading vast amounts of information amongst these ways. As we saw in the previous chapters, Social Media have different categories (Fotis, 2015; Kaplan & Haenlein, 2010), and one of them regards Social Networking Sites (SNSs), like Facebook, Instagram or LinkedIn.

SNSs are considered as “a networked communication platform in which participants: 1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other Users, and/or system-provided data; 2) can publicly articulate connections that can be viewed and traversed by others; and 3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site” (Ellison & Boyd, 2013, p. 158).

In the last years, Social Network Sites are becoming also an indispensable part of entrepreneurship practices. They offer entrepreneurs a platform for business growth and brand development (Kaplan & Haenlein, 2010; Gunelius, 2011; Trainor, 2012; Luo & Zhang, 2013).



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SNSs and applications are often considered as useful tools for entrepreneurship. They enable entrepreneurs to easily identify changes and opportunities in business creation through interactions and communications with peers on the networks. These instruments offer opportunities to reach target customers and generate new ideas for starting a business. Similarly, small-scale entrepreneurs take advantage of SNSs in marketing and operations by having a close and profitable relationship with peers, partners, and customers (Cort, Lavazzi & D'Andrea, 2015; Felix, Rauschnabel & Hinsch, 2017).

However, some entrepreneurs are not taking advantage of Social Media and Social Network Sites. It means that practitioners' perception of SM varies, from embracing potential benefits to being reluctant. For this reason we want to understand what are the psychological characteristics that push towards different choices.

Research related to the impact of individual and psychological characteristics in the usage of SNSs observed that dissimilarities among individuals influence their adoption and use of the systems (Amichai-Hamburger & Vinitzky, 2010; Osatuyi, 2015; Quercia et al., 2012; Stieger, Burger, Bohn & Voracek, 2013; Ross et al., 2009; Yaakobi & Goldenberg, 2014). Anyway, little is known about the effect of entrepreneurs psychological characteristics on the choice to use or not use SNSs for their business.

Utilizing the Theory of planned behaviour and the Technology acceptance model, the following pilot study focuses on how certain factors (such as perceived usefulness and perceived ease of use, both related to attitude; subjective norms and perceived behavioural control) may impact on entrepreneurs' behaviour; it also will try to understand how some control variables (e. g. age, gender, instruction and others) can influence this behaviour.

When an entrepreneur begins a business activity, he brings a set of human capital to his trade. So, the business becomes an enlargement of the entrepreneur as an individual (Zhang & Bruning, 2011); for this reason, since starting up a new venture, the individual's characteristics as an entrepreneur are essential in his way of doing business (Littunen, 2000).

This pilot study contributes also to the occupational choice literature pertaining to entrepreneurship by applying the Theory of planned behaviour and the Technology acceptance model to predict entrepreneurial behaviour.



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Originating from social psychology, these theories posit that intention, a function of behavioural beliefs, is a significant predictor of subsequent behaviour. We want to provide a test for both of these theories in the prediction of business intentions and subsequent behaviour, based on a survey data from two groups of small-scale entrepreneurs belonging to the hand-made sector.

Social Media Usage

In the last decade Social Media has transformed the way in which enterprises conduct business and develop social relationship. These changes have opened the opportunity for the emergence of new ways to commercialize services on these platforms, leading to the appearance of the Social Media entrepreneur.

Using advanced technology and Social Network services can change market trends and create new ways for doing business. Throughout the past years the idea of how to market and what content should be shared has dramatically changed. The newest area that has just opened up for marketing is customer relations marketing (that is possible through Social Network Sites page). McKelvie and Wiklund (2004), argued that increased communication in new technology between entrepreneurs users and customers is important to discover entrepreneurial opportunities.

Social Media usage is the most effective tool for combining, comparing and evaluating information for entrepreneurial opportunities. Young start-ups and entrepreneurs who begin their business with limited knowledge and resources are heavily influenced by Social Media and sense trends and opportunities.

The reason why SM sites are so important to marketing today is that they allow enterprises to not only advertise, but immediately get feedback either by comments, likes, or reposts. Although this is a huge possibility for any enterprise, many are not using Social Media effectively or in some cases at all. Enterprises can also use SM like an interactive medium where sharing information with users and groups, co-creating, discussing and recruiting (Kietzmann et al., 2011).

In recent years, as explained in the previous chapters, numerous enterprises have seen the massive opportunity of Social Media and e-commerce sales reached \$2.290 trillion in



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2017, making up 10.1% of total retail sales (eMarketer 2018), but there are some enterprises which are not able to use SM in a profitable way. The purpose of the following pilot study is to comprehend which entrepreneurs' psychological characteristics can explain these choices.

To understand these characteristics, we use two psychological theories of behaviour: the Theory of planned behaviour (TPB; Ajzen, 1991) and the Technology acceptance model (TAM; Davis, 1989).

Theory of Planned Behaviour (TPB)

Originating from social psychology, the Theory of planned behaviour (Ajzen, 1991) works on the assumption that intention is a significant predictor of behaviour, while intention itself is a function of behavioural beliefs that link the given behaviour to certain outcomes.

In the entrepreneurial context, the Theory of planned behaviour contributes to understanding of the emergence of entrepreneurial behaviour, which has notable implications for comprehending the situation of handicraft producers.

In the entrepreneurial context, many studies have applied this theory to predict the intention to start a business (Almobaarek, Alshumaimeri & Manolova, 2011; Autio et al., 2001; Kolvereid, 1996; Krueger et al., 2000; Liñán & Chen, 2009; van Gelderen et al., 2008). This body of literature also argues that the Theory of planned behaviour provides predictive power in this context.

Ajzen (1991) offers a definition of intention as a person's readiness to perform a given behaviour. In the entrepreneurial context, Thompson defines intention as "a self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future" (Thompson, 2009, p. 676).

Further, Ajzen (1991) argues that intention is a sufficient predictor of behaviour in situations where the individual has a very high degree of volitional control over the behaviour.

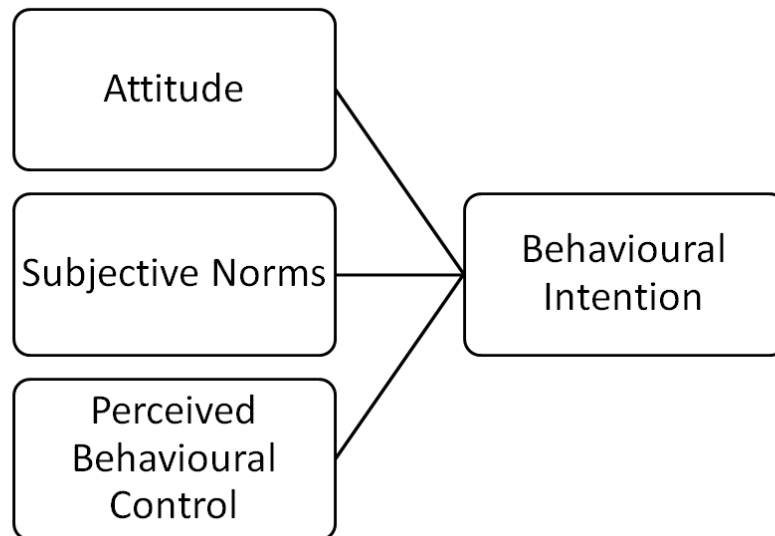
In the theory framework, intention is a function of three different antecedents: attitude, subjective norms and perceived behavioural control. Attitude is a favourable or



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unfavourable evaluation of the behaviour, subjective norms are the perceived social pressure to perform or not perform the behaviour and the perceived behavioural control is the perceived ease or difficulty to perform the behaviour (Ajzen, 1991).

Figure 13: Theory of planned behaviour (TPB; Ajzen, 1991)



So, applying the theory to our entrepreneurial context, use of Social Network commerce is influenced by the potential antecedents: positive attitude of SNSs commerce, a supportive view of SNSs commerce by the entrepreneur's significant people and unawareness of ability of performing SNSs commerce.

One of the aims of this pilot study is to verify whether the Theory of planned behaviour contributes to understanding of entrepreneurial behaviour in our context.

Prior applications of this theory, in the entrepreneurship literature, suggest that attitude, subjective norms, and perceived behavioural control typically explain 30-45% of the variance in intentions (Autio et al., 2001; Kolvereid, 1996; Krueger et al., 2000; Liñán & Chen, 2009; van Gelderen et al., 2008).

Theory of planned behaviour (TPB) is the model widely used to discuss the effect of some antecedents in behavioural intention, but it is not specific of technological system usage. An extension of TPB model with Technology acceptance model (TAM) would be in a more comprehensive manner to understand behavioural intention to use Social Network commerce.



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Technology acceptance model (TAM)

Technology acceptance model is one of the most popular research models to predict use and acceptance of information systems and technology by individual users; it has been based on Theory of planned behaviour.

According TAM, technology usage behaviour is determined by the intention to use a particular technological system, which in turn, is determined by attitude, perceived usefulness and perceived ease of use of the specific system.

Different researchers agreed that this model is valid in predicting the individual's acceptance of various Information technology systems (Adams, Nelson, & Todd, 1992; Chin & Todd, 1995; Doll, Hendrickson, & Deng, 1998; Segars & Grover, 1993), and different research combined both models to understand different types of behaviour (Chau & Hu, 2002; Wu & Chen, 2005; Lee, 2009; Abdullah, Ward & Ahmed, 2016). For this reason we have chosen to apply this model to our pilot study on handicraft producers and SNSs commerce.

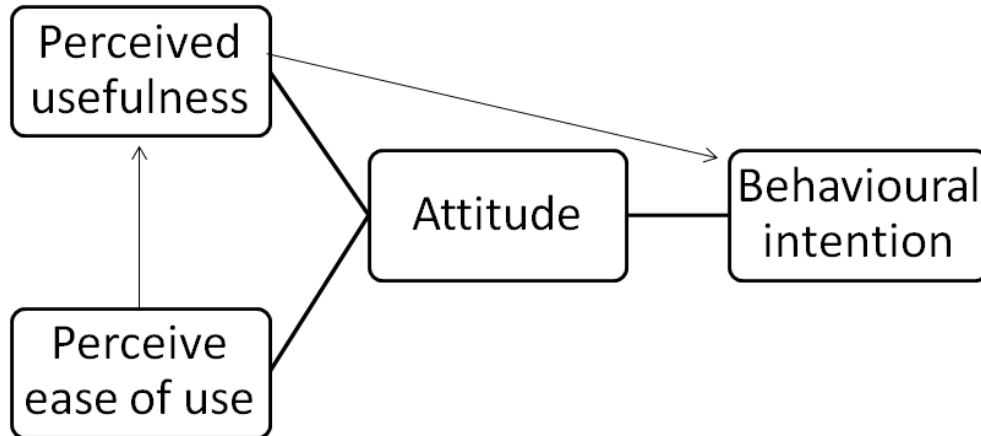
The model includes two relevant factors that come before attitude and technology use behaviours intention: perceived usefulness and perceived ease of use. Perceived usefulness is the prospective user's subjective probability that using a specific application system will enhance their own job or life performance. Perceived ease of use is the degree to which the prospective user expects the target system to be free of effort (Davis, 1989). They are both the most important determinants of actual system use, and they are influenced by external variables (social factors, cultural factors and political factors).

According to TAM, usage behaviour is a direct function of behavioural intention (specifically, Social Network Sites commerce is a direct function of Social Network Sites commerce's intention). Behavioural intention is, in turn, a function of: attitude toward usage (attitude towards Social Network Sites commerce), which is determined by perceived usefulness and perceived ease of use. Finally, perceived usefulness is a direct determinant of behavioural intention, and it is influenced by perceived ease of use.



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Figure 14: Technology acceptance model (TAM; Davis, 1989)



TAM does not include the influence of social and control factors on behaviour. But such factors have been found to have a significant influence on IT usage behaviour, and these variables are also key determinants of behaviour in the Theory of Planned Behavior (Ajzen, 1991): subjective norm (social influences) are modelled as determinants of behavioural intention, and perceived behavioural control is modelled as a determinant of both intention and behaviour. An extension of TAM model with TPB would be in more comprehensive manner to understand behavioural intention to use Social Network Sites commerce. We will also consider some control variables (e. g. age, gender, instruction and others) inside our model.

Research Model

Using the previous literature review, we created a model that can explain small-scale entrepreneurs' behaviour (specifically handicraft producers). Our main goal was to examine whether the Theory of Planned Behaviour and the Technology acceptance model are a useful prototype in the context of Social Network Sites commerce.

More specifically, we expected attitude (which includes perceived ease of use and perceived usefulness), subjective norms (SN) and perceived behavioural control (PBC), to have a significant impact on behavioural intention to use Social Network Sites commerce.

So, in our model subjective norms and perceived behavioural control (belonging to the Theory of Planned Behaviour) are added to Technology acceptance model to provide a more complete test of the important determinants of Social Network Sites commerce.



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While we anticipate that this model will help understand information technology usage for both handicraft producers, the relative influence of the model determinants may differ between the two groups.

The participants are two different groups of handicraft producers: the producers who have a traditional shop (non-Users) and the producers who use strictly Social Network Sites commerce (Users). The way to interpret the results will be different for the two groups of participants. For the group of Users the dependent variable will be directly the behaviour (use SNSs commerce); for the group of non-Users the dependent variable will be the behavioural intention to use SNSs commerce.

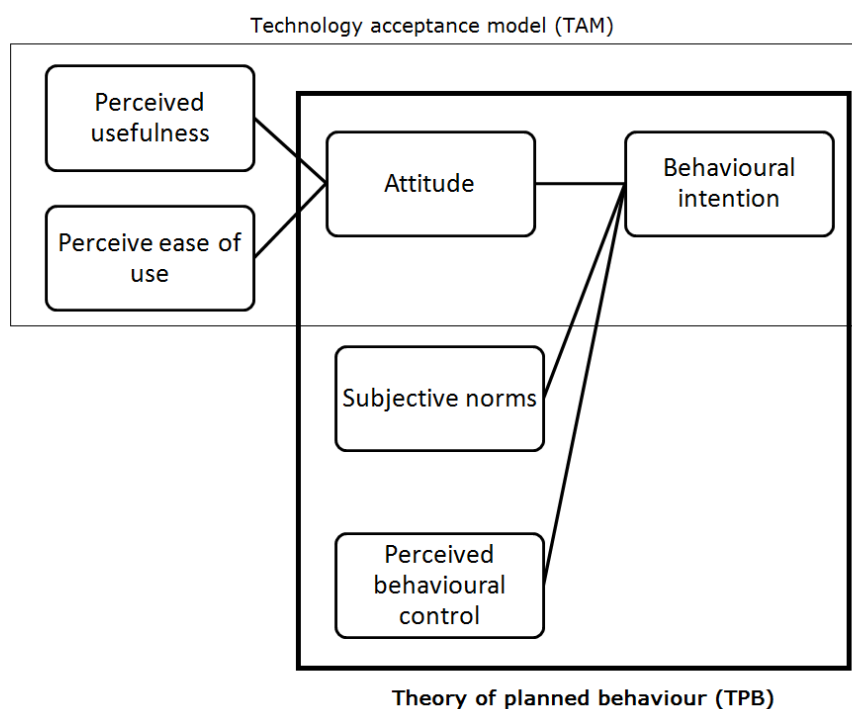
More specifically, we expected that:

(H1) The attitude would be predicted by perceived usefulness and perceived ease of use.

In addition, we expected:

(H2) The Behaviour (for Users)/Behavioural intention (for non-Users) to use Social Network Sites commerce would be predicted by Attitude, Subjective norms and Perceived behavioural control.

Figure 15: The research model of the pilot study on handicraft producers





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3.3 Description of participants

Our research focuses on a group of specific handicraft producers of hand-made objects. A hand-made object can be defined as something that has been created by the hands of a skilled maker through the physical manipulation of raw materials.

The following definition, adopted in 1997 by the United Nations Educational, Scientific and Cultural Organization/Information Technology Community (UNESCO/ITC) Symposium on Crafts and the International Market, is helpful to understand the handicraft sector:

Artisanal products or handicrafts are those produced by artisans, completely by hand or with the help of hand-tools and even mechanical means, as long as the direct manual contribution of the artisan remains the most substantial component of the finished product. Their special nature derives from their distinctive features, which can be utilitarian, aesthetic, artistic, creative, culturally attached, decorative, functional, traditional, and religiously and socially symbolic and significant. They are made of sustainably produced raw materials and there is no particular restriction in terms of production quantity. Even when artisans make quantities of the same design, no two pieces are ever exactly alike³.

Our category of handicraft producers refers to handicraft products like home and person accessories (also referred to as the “home décor” or “home accents” and “gifts” product categories).

Crafts, a unique expression of the culture of a society through its craftsmanship and products offered. In many developing countries, like Italy, the production of crafts is a major form of employment, and in some countries constitutes a significant portion of the export economy. For this reason one of the key factors of success in research and development discusses how to use the technology in the Handicraft world.

For our purpose we choose two groups of participants both belonging to the big cities of south Italy. Data was collected from producers who have created their business online (Users), and from handicraft producers who have a traditional shop (non-Users).

³ <http://www.unesco.org/new/en/culture/themes/creativity/creative-industries/crafts-and-design/>



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3.4 Method

For the handicraft producers who have created their business online we created an online questionnaire submitted by email, for the handicraft producers who have a traditional shop we created a paper questionnaire submitted in the shops. Questionnaire is in APPENDIX 3.

For Users we mailed 250 questionnaires to a random sample of individuals; we obtained email addresses from their Social Network business page. The survey resulted in a total of 146 responses (response rate: 58,4%).

For non-Users we created a paper questionnaire submitted in the shop, to a random sample of 125 micro-entrepreneurs, found in Palermo's town centre. The survey resulted in a total of 104 responses (response rate: 83,2%).

3.4.1 Instruments

The questionnaire was composed of 28 items and it was anonymous, but the respondents could indicate their willingness to know the results and provide their contact details.

The first part of the questionnaire was used to collect basic information about respondent characteristics and firm's information, including age, gender, education, marital status, number of children, firm's age, staff number, annual sales, type of SNSs used, aim for SNSs usage.

Theory of Planned Behaviour

The dependent variable in this study is different for the two groups of participants. For Users the dependent variable is Behaviour, for non-Users the dependent variable is entrepreneurial intention (referred to Social Network Sites commerce). Entrepreneurial intention captures whether and how the respondent (non-Users) had engaged in entrepreneurial behaviour. The operationalization of this variable relies on treating the decision to use Social Network Sites commerce as a continuous variable using a 5-point Likert-type scale.

Operationalizing entrepreneurial intention in terms of different choices is in line with the Theory of Planned Behaviour (Ajzen, 1985), where behaviour refers to making an effort to



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start a specific type of business. Thus, the operationalization based on the entrepreneurial ladder distinguishes between different degrees of effort the individual has invested in the process of starting a business online.

According to Thompson (2009), having entrepreneurial intention is not a simple yes or no question (binary variable) but a matter of extent ranging from very low to very high. Hence, this research uses an ordinal scale based on the question “*It is my intention to start using (or continue to use) the Social Networks for my commercial activity in a much more intense way*”. On this scale, a score of 1 indicates very low intentions and a score of 5 very high intentions to use a specific style of business.

This question yields a so-called behavioural expectancy measure of intention (van Gelderen et al., 2008). Previous literature argues and finds that behavioural expectancies provide better predictions of behaviour than other measures of intention (Sheppard et al., 1988; Warshaw and Davis, 1985).

We used the same process to create the items related to:

- subjective norm: e.g. “*The person most significant to me (parent, partner, etc.) believes that the use of social networks is a key element to develop my business*”.
- perceived behavioural control: e.g. “*I have the communication/relationshipal skills to manage/start a commercial activity through social networks*”.

Regarding the operationalization of the attitude we used the semantic differential measurement technique (Osgood, Suci & Tannenbaum, 1957). This is a form of rating scale that measures an individual's unique, perceived meaning of an object, a word, or an individual. It can be thought of as a sequence of attitude scales. Using a 5 point bipolar rating scale, respondents are expected to rate a specific entrepreneurial behaviour (having a Social Network Page for their own business). The scales (7 for each behaviour) are designed such that the left side is negative and the right is positive (e.g. bad/good, ugly/beautiful, weak/strong).



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Technology acceptance model

Previous Technology acceptance model research was used to derive the constructs for our pilot study (Davis, 1989; Davis et al. 1989; Taylor & Todd, 1995; Venkatesh & Davis, 2000).

The constructs of perceived ease of use and perceived usefulness were measured using scales adapted from Davis (1989). All items were measured using a 5-point Likert-type scale with anchors on strongly disagree and strongly agree, respectively.

Specifically, for the perceived ease of use (the degree to which the prospective user expects the SNSs to be easy to use) we adapted the *Social Network Sites Self-efficacy scale* (SNSES; Ruggieri, Bonfanti & Scrima, 2018, *submitted for publication*).

Social Network Self-efficacy was measured by *Social Network Sites Self-Efficacy Scale* (SNSES; Ruggieri, Bonfanti & Scrima, 2018, *submitted for publication*). It consists of 18 items in a four-factor model (social/interactive, emotional, technological, telepresence) for self-efficacy on SNSs.

Social/interactive self-efficacy factor is related to social (responding, commenting, adding friends) and interactive activity (sharing post, publishing photos, finding information) that can be conducted on social media. *Emotional* self-efficacy factor refers to the emotional states experienced during the use of SNSs (happiness, relaxation, satisfaction) and the ability to build social relationship. *Technological* self-efficacy factor is related to more advanced aspects than the simple use, that is specifically connected with the installations / uninstallations and the solution of more advanced problems. *Telepresence* self-efficacy factor refers to a state of promptness in response to posts and the status of control of notifications from one's own SNSs.

3.5 Results

For data analysis we used *Ordinary Least Squares model*, *Logit* and *Ordered Logit Models*.

For data analysis referred to *Attitude* (for the full group of participants) we used Ordinary Least Squares model (OLS) because this variable is measured in a continuous scale.



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For the analysis referring to the dependent variable *Behaviour* (for the full group of participants) we used a Logit model, because this dependent variable is binary which takes values 0 or 1 (presence or absence of behaviour). These models are appropriate when the response takes one of only two possible values representing the presence or absence of an attribute of interest (use or non-use SNSs commerce).

For data analysis referring to dependent variable *Behavioural Intention* (only for non-Users participants) we used an Ordered Logit Model, because our dependent variable is measured in ordered categories.

The list of variables is in APPENDIX 2.

3.5.1 *Attitude in using social media*

To explore *Attitude* we use an Ordinary Least Squares model (OLS) since this variable is measured in a continuous scale. Indeed, we obtain this variable as average value from 7 Likert 5-point scales.

According to TAM model, variables we expected were correlated with *Attitude*, i.e. *Perceived ease of use* and *Perceived usefulness* were included in the Ordinary Least Squares model. According to theoretical models above-mentioned, the structure of relations between Perceived ease of use, Perceived usefulness, Attitude and Behavioural intention is more complex and those should be estimated by structural models. Unfortunately, due to the poor availability of data, here we can only estimate simple one direction causality models. We intend to enlarge the sample and extend the analysis to structural models in the future.

The results suggest that in the full sample only *Perceived usefulness* has the positive effect on *Attitude* to use Social Network Sites commerce. *Perceived ease of use* has negative effect on *Attitude* only in non-Users sample. The results are shown in the Table 12.

The socio-demographic factors are considered control variables in the model.

Age has a positive effect on the *Attitude* (only for non-User participants), the greater the age the greater disposition to use SNSs commerce. Regarding *Gender* (reference category is *female*), to be *male* decreases the *Attitude* more than *female*.



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Concerning *Marital Status* (reference category is *single*), to be *married*, *divorced* and *widowed* decreases the disposition to use SNSs commerce compared to *single* people (only for non-Users). To be *divorced* and *widowed* decreases the disposition to use SNSs commerce compared to *single* people (for full sample), and to be *married* increases the disposition to use SNSs commerce compared to *single* people (for Users).

Concerning *Education* (reference category is *lower secondary school*), only for non-Users participants, the *upper secondary school* increases *Attitude* over *lower secondary school*.

To have *Children* decreases the *Attitude* over people with no children (only for Users).

Regarding *Staff number* (reference category is *no staff members*), it has no significant relationship with *Attitude* in non-Users participants; for full-sample the bigger the firm (*1 employee; 3 or more employees*) the less the *Attitude*. For Users to have *3 or more employees* increases the *Attitude* over *no staff members*.

Firm's age has a significant relationship with *Attitude* for full sample, non-Users and Users. is the greater the firm's age, is the greater the *Attitude* referring to use SNSs commerce

3.5.2 Behaviour in using social media

Variables we expected were significantly correlated with *Behaviour* (i.e. attitude, social norms, perceived behavioural control) were included in the binary logistic regression.

With the Logit model we will try also to understand the probability to use Social Network Sites commerce with respect to entrepreneur's and firm's characteristics (age, gender, education, marital status, presence of children, firm's age, staff number, annual sales, type of SNSs used, aim for SNSs usage).

In other words, a logistic regression analysis was used to predict the probability to use Social Network Sites commerce. The components of the Theory of Planned Behaviour (i.e. *Attitude*, *Subjective norms* and *Perceived behavioural control*) are significantly correlated with the *Behaviour* in the regression. The results are shown in the Table 12.

So, *Attitudes*, *Subjective norms* and *Perceived behavioural control* positively influence *Behaviour*, i.e. the probability to use Social Network Sites commerce.



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The socio-demographic factors are considered control variables in the model.

Age has negative effect on the *Behaviour*, is the lower the *Age* the higher the probability to use SNSs commerce. Regarding *Marital Status* (reference category is *single*), to be *Married* and *Widowed* increases the probability to use Social Network Sites commerce than single people.

Concerning *Education* (reference category is *lower secondary school*), belonging to *upper secondary school* decreases the probability to use Social Network Sites commerce compared to *lower secondary school*.

To have *Children* increases the probability to use Social Network Sites commerce over people with no children.

Regarding *Staff number* (reference category is *no staff members*), the bigger the firm (2 *employees*; 3 or more *employees*) the less the probability to use Social Network Sites commerce.

Gender and *Firm's age* have no significant relationship with the *Behaviour*.

3.5.3 Behavioural Intention in using social media

In order to explore *Behavioural Intention*, we used an Ordered Logit Model due to the statistical nature of dependent variables. For *Behavioural Intention* we considered only non-Users participants because the variability of *Behavioural Intention*, in coherence with our expectations, is very low for Users and then regression analysis does not make sense on this group of respondents. In other words, users have all answered indicating the highest values of intentions due of course to the fact they have already made the choice to use social media.

According to TBP model, variables we expected were significantly correlated with *Behavioural Intention* are: *Attitude*, *Subjective norms* and *Perceived behavioural control*. We included all these variables in the Ordered Logit Model as reported in the columns 5-6 of Table 12. We should focus only on column 5 where we consider the Non-users. As expected, we do not find significant results for the Users due to the above mentioned motivations.



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So, for non-User participants, only *Attitude* has the positive effect on *Behavioural Intention* to use Social Network Sites commerce. The relationships between *Subjective norms* and *Behavioural Intention*, *Perceived behavioural control* and *Behavioural Intention* are not significant.

The socio-demographic factors are considered control variables in the model.

Age has positive effect on the *Behavioural Intention*, is the higher the *Age* the higher the probability to have the *Behavioural Intention* to use SNSs commerce.

Regarding *Gender* (reference category is *Female*), it has a significant and negative relationship with *Behavioural Intention*: to be male decreases the intention to use SNSs commerce. Concerning *Marital Status* (reference category is *Single*), to be *Widowed* decreases the probability of the *Behavioural Intention* than *Single* people.

Regarding *Education* (reference category is *lower secondary school*), belong to the category *upper secondary school* increases the probability to have *Behavioural Intention* than *lower secondary school*.

Regarding *Staff number* (reference category is *no staff members*), bigger is the firm (*2 employees; 3 or more employees*) more is the probability to have *Behavioural Intention* to use Social Network Sites commerce.

To have *Children* and *Firm's age* have not a significant relationship with the *Behavioural Intention*.

In the proposed model, there were three direct predictors of *Behaviour/Behavioural Intention*: *Attitude* towards Behaviour, *Subjective Norms* and *Perceived Behavioural Control*. All of these predictors were found to have a significant influence on Behaviour for Users sample.

For non-Users sample, only *Attitude* has a significant influence on *Behavioural Intention*. So, for this group of participants, the model is not completely confirmed.

We also expected that *Perceived Ease of Use* and *Perceived Usefulness* would have a significant influence on *Attitude*. But the results confirmed only the significant influence of *Perceived Usefulness* on *Attitude* (for full sample).



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A significant and negative relationship between *Perceived Ease of Use* and *Attitude* was found only for non-Users sample. It implies that people that feel able to use Social Network Sites have a negative *Attitude* regarding the use of Social Network Sites for business activities.

We found, in non-Users sample, a negative significant relationship between *Age* and *Behavioural Intention* to use Social Network Sites for business. It means that the older people are, the lower the probability to have *Behavioural Intentions* in favour of using Social Network Sites for business. This result is expected due to the fact that SNSs are mainly used by younger people.

The firm size, here measured by the number of employees, seems to influence negatively and significantly the *Behaviour*. It is possible that individuals without staff members decide to use Social Network Sites for their own business because SNSs are easy to use and low cost.



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Table 12 – Determinants of Attitude, Behaviour and Behaviour Intention

VARIABLES	OLS	OLS	OLS	Logit	Ordered Logit	Ordered Logit
	(1)	(2)	(3)	(4)	(5)	(6)
	Attitude			Behaviour	Intention	
	Full Sample	Non-users	Users	Full sample	Non-users	Users
Attitude				2.031*** (0.554)	0.958*** (0.303)	0.282 (0.299)
Subjectivenorms				0.504* (0.290)	0.252 (0.308)	0.0961 (0.455)
PerceivedBehaviorControll				1.783*** (0.577)	0.224 (0.339)	0.204 (0.241)
PerceivedUsefulness	0.735*** (0.0416)	0.660*** (0.0634)	0.627*** (0.0427)			
PerceivedEasyofUse	-0.000709 (0.0598)	-0.169*** (0.0591)	0.0337 (0.150)			
age	0.292 (0.238)	1.079** (0.462)	0.177 (0.244)	-2.697** (1.282)	2.619* (1.411)	-0.568 (1.117)
gender	-0.374*** (0.140)	-0.383* (0.226)	-0.441*** (0.163)	1.680 (1.344)	-2.361** (0.989)	0.338 (0.833)
2.status	-0.0775 (0.0943)	-0.441*** (0.114)	0.169* (0.0923)	1.957** (0.817)	-0.732 (0.692)	0.224 (0.615)
3.status	-1.112** (0.520)	-1.603*** (0.448)	-1.053 (0.744)	-0.221 (1.236)	-0.865 (1.468)	1.085 (1.086)
4.status	-0.768* (0.436)	-0.608* (0.354)	-1.081 (1.064)	2.568** (1.129)	-2.458* (1.257)	-0.790 (1.707)
education	0.133 (0.0882)	0.577*** (0.178)	-0.113 (0.0867)	-1.306* (0.703)	1.537* (0.867)	0.671 (0.595)
children	0.0752 (0.0887)	0.176 (0.136)	-0.279*** (0.0962)	1.848** (0.801)	-0.954* (0.510)	0.548 (0.895)
1 employee	-0.288*** (0.106)	-0.278 (0.215)	-0.162* (0.0922)	-0.847 (0.651)	0.758 (0.978)	-0.259 (0.547)
2 employees	0.0826 (0.140)	0.0526 (0.220)	0.180 (0.181)	-1.773** (0.863)	1.905** (0.745)	0.248 (0.865)
3 or + employees	-0.301** (0.138)	-0.278 (0.204)	0.998*** (0.243)	-8.078*** (2.895)	1.856*** (0.656)	-2.391* (1.271)
firm_age	0.221*** (0.0577)	0.430*** (0.0869)	0.158** (0.0639)	-0.979 (0.697)	0.158 (0.671)	-0.470 (0.486)
Constant	-0.948 (0.936)	-4.572** (1.941)	0.589 (1.126)	0.548 (6.112)	- -	- -
Observations	216	102	114	217	103	114
R-squared	0.692	0.741	0.612	-	-	-

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



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3.6 Conclusions

The current study examined factors associated with the intent to use Social Network Sites commerce in a group of handicraft producers. They were divided in two subgroups related to Social Network Sites commerce usage: Users and non-Users.

The theoretical model looks at *Behaviour* (for Users) and *Behavioural Intention* (for non-Users) in using SNSs for business. Results give us some evidence in favour of theoretical hypotheses.

This research was conducted with the aim of providing a first pilot study. For these reasons, empirical results have to be interpreted with the adequate degree of carefulness. For example, there was a relatively small number of participants and they were from only South Italy. A limitation is that some handicraft producers may have misrepresented their answers by selecting socially desirable responses for some of the questions. In addition, participants might be more self-motivated and engaged than the general population given that they voluntarily participated in the survey, which may restrict the generalizability of the findings. Also, SM are used worldwide in different way; so, our findings may not be applicable to other nations. Despite these limitations, this study adds valuable insights with regard to explaining the reason why small-entrepreneurs decide to use SNSs for their Business. Future studies on related topics may extend our findings by addressing these limitations.

However, these results appear to provide theoretical support to the limited research that has been conducted to understand the psychological factors behind entrepreneurs' choices. To the best of our knowledge, there are not available other similar empirical studies in literature and this represents the first attempt. Future researches could investigate the same hypothesis on a different type of small-scale entrepreneurs to ascertain whether there is a difference in the relationship between the factors investigated.



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CONCLUSION

Social Media has transformed the way in which enterprises conduct business and develop their social relationships. They have opened the opportunity for the emergence of new ways to commercialize, leading to the appearance of the social media entrepreneur.

The first aim of this doctoral thesis was to exploit aggregate data on the use of ICT and Social Media in European enterprises in order to look at the position of Italy with respect to the other countries. Secondly, we used microdata on Italian enterprises always referred to the same survey. The main purpose of this phase was to explore the determinants at firm level which may significantly influence the probability of using SM and the aims for which different types of SM are used. Finally, we wanted to propose a case study on the relationship between entrepreneurs' characteristics and the use of Social Media for their business. For this part, we particularly focused on the psychological aspects, considering two important theories: Theory of Planned Behaviour (TPB) and Technology Acceptance Model (TAM). The aim of this case study was to compare the role of different characteristics of entrepreneurs who use SM for their business activity with respect to those used in traditional ways.

Thanks to EUROSTAT dataset we saw European countries use Social Media with a different intensity and extensity than Italy. Social Media usage in enterprises is in Italy still too limited with respect to other European countries. This can be seen as an obstacle to economic growth for the country.

Specifically, each Italian firm uses Social Media in a different way and levels, based on different firm's characteristics. The variables that can influence Italian enterprises' usage of SM can be of different types. Thanks to ISTAT dataset we saw that both external (broadband connection download speed) and internal characteristics (human resources and technological endowment) have a significant impact on SM usage. So, they are key factors in the Italian enterprise ICT revolution.

This research on ISTAT database has highlighted the existence of a wide range of different situations in Italian enterprises. We saw that there are also enterprises that are very open to the use of social channels and interactive technologies and able to take full advantage of



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their adoption, especially small enterprises and the firms belonging to the service sector. In this situation the entrepreneur's role makes a difference in these firms, and in particular the entrepreneurs' ability to conceive new ways of doing business and his willingness to get involved with new initiatives.

For this reason, we conducted a pilot study to examine factors associated with intent to use Social Network Sites commerce in a group of handicraft producers. This pilot study focuses on the psychological aspect of entrepreneurship and the object is not to suggest a best way to conduct one's own business.

The theories from which we started were Theory of planned behaviour and Technology acceptance model. This theory helped us to understand some important psychological factors linked to the choice of Social Network Sites commerce, in a group of two different types of handicraft producers belonging to the south of Italy (Users and non-Users).

Our results show which type of factors can be related to the Behaviour and Behavioural Intention towards SNSs commerce. There are three direct predictors of Behaviour/Behavioural Intention to use Social Network Sites commerce: Attitude towards Behaviour, Subjective Norm and Perceived Behavioural Control. But, with our results the model was not completely confirmed for the full-sample of participants.

So, future researches could investigate the same hypothesis on a different type of small-scale entrepreneurs to determine whether there is a difference in the relationship between the factors investigated.



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References

- Abdullah, F., Ward, R., & Ahmed, E. (2016). Investigating the influence of the most commonly used external variables of TAM on students' Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) of eportfolios. *Computers in Human Behavior*, 63, 75–90.
- Adam, D. A., Nelson, R. R., & Todd, P. A. (1992). Perceived Usefulness, Ease of use, and Usage of Information Technology: A Replication. *MIS Quarterly*, 16(2), 227-247.
- Adegbuyi, A., Oke, A. O., Worlu, R. E., & Ajagbe, A. M. (2015). *Archival Review of the Influence of Organizational Strategy on Organizational Performance*. In the Proceedings of the Covenant University International Conference on African Development Issues (CU-ICADI 2015).
- Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior*. In J. Kuhl & J. Beckman (Eds.), *Action control from cognition to behavior* (pp. 11–39). Heidelberg, Germany: Springer.
- Ajzen, I. (1991). Theories of cognitive self-regulation the theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Almobaireek, W.N., Alshumaimeri, A.A., & Manolova, T.S., (2011). Entrepreneurial Intentions among Saudi University Students. The Role of Motivations and Start-Up Problems. *International journal of Management and Business*, 2(2), 1-13.
- Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in Human Behavior*, 26(6), 1289-1295.
- Arbore, A., & Ordanini, A. (2006). Broadband divide among SMEs, the role of size, location and outsourcing strategies. *International Small Business Journal*, 24(1).
- Ashley, C., & Tuten, T. (2015). Creative strategies in social media marketing: An exploratory study of branded social content and consumer engagement. *Psychology & Marketing*, 32, 15–27.
- Åstebro, T. (2002). Non-Capital Investment Costs and the Adoption of CAD and CNC in the U.S. Metalworking Industries. *Journal of Economics*, 33(4), 672-688.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Aula, P. (2010). Social media, reputation risk and ambient publicity management. *Strategy & Leadership*, 38(6), 43–49.
- Autio, E., Keeley, R.H., Klofsten, M., Parker, G.G.C., & Hay, M. (2001). Entrepreneurial intent among students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, 2(2), 145–160.
- Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation The importance of context. *Research Policy*, 43, 1097–1108.
- Autor, D., Lavy, F., & Murnane, R. (2003) .The Skill Content of Recent Technological Change: An Empirical Exploration. *Quarterly Journal of Economics*, 118(4), 1279-1334.
- Bach, M., Zoroja, J., & Vuksic, V. (2013). Determinants of firms' digital divide: A review of recent research. *Procedia Technology*, 9, 120–128.
- Bapna, R., Goes, P., Wei, K. K., & Zhang, Z. (2011). A finite mixture logit model to segment and predict electronic payments system adoption. *Information Systems Research*, 22(1), 118- 133.
- Bharadwaj, A. (2000). A resource-based perspective on IT capability and firm performance: an empirical investigation. *MIS Quarterly*, 24, 169–196.
- Black, S. E., & Lynch, L. M. (2001). How to compete: The impact of workplace practices and information technology on productivity. *The Review of Economics and Statistics*, 83(3), 434–445.
- Bloom, N., & Van Reenen, J. (2007). Measuring and Explaining Management Practices Across Firms and Countries. *The Quarterly Journal of Economics*, (122), 1351-1408.
- Bloom, N., Sadun, R. & Van Reenen, J. (2012). Americans Do IT Better: US Multinationals and the Productivity Miracle. *American Economic Review*, 102 (1), 167-201.
- Bloom, N., Sadun, R. & Van Reenen, J. (2016). *Management as a Technology?*. National Bureau of Economic Research, Inc June 2016.
- Bresnahan T., Brynjolfsson, E., & Hitt, L. (2002). Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence. *Quarterly Journal of Economics*, 117, 339-376.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Broekemier, G., Chau, N. N., & Seshadri, S. (2015). Social Media Practices Among Small Business-to-Business Enterprises. *Small Business Institute Journal*, 11 (1), 37-48.
- Brynjolfsson, E., & Hitt, L. (2003). Computing productivity: firm-level evidence. *Rev Econ Stat*, 85, 793–808.
- Bugamelli, M., Cannari, L., Lotti, F., & Magri, S. (2012). *The innovation gap of Italy's production system: roots and possible solutions*. Bank of Italy Occasional, Paper 121.
- Calligaris, S. (2015). *Misallocation and Total Factor Productivity in Italy: Evidence from Firm-Level Data*. CEIS Research, Paper 357.
- Calligaris, S., Del Gatto, M., Hassan, F., & Ottaviano, G. (2016). *A Study on Resource Misallocation in Italy*. European Economy Discussion, Papers 30.
- Capitello, R., Agnoli, L., Begalli, D., & Codurri, S. (2014). Social media strategies and corporate brand visibility in the wine industry: Lessons from an Italian case study. *EuroMed Journal of Business*, 9 (2), 129-148.
- Carlsson B., Jacobsson S., Holmén M., & Rickne, A. (2002). Innovation systems: analytical and methodological issues. *Research Policy*, 31, 233–245.
- Caroli, E., & Van Reenen J. (2001). Skill-Biased Organizational Change? Evidence from a Panel of British and French Establishments. *Quarterly Journal of Economics*, 116, 1449-1492.
- Cesaroni, F.M., & Consoli, D. (2015). Are small businesses really able to take advantage of social media. *Electronic Journal of Knowledge Management*, 13, 257-268.
- Chau, P. Y., & Hu, P. J. H. (2002). Investigating healthcare professionals' decisions to accept telemedicine technology: *An empirical test of competing theories*. *Information & Management*, 39(4), 297-311.
- Chiarvesio, M., Di Maria, E. & Micelli, S. (2004). From local networks of SMEs to virtual districts? Evidence from recent trends in Italy. *Research Policy*, 33, 10-23.
- Chin, W. W., & Todd, P. A. (1995). On the Use, Usefulness, and Ease of Use of Structural Equation Modeling in MIS Research: A Note of Caution. *MIS Quarterly*, 19 (2), 237-246.
- Clayton, T. (2005). *IT investment, ICT use, and UK firm productivity*. London: Office for National Statistics.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Cort, V.D., Lavazzi, A., & D'Andrea, C. (2015). Customer involvement through social media: The cases of some telecommunications firms. *Journal of Open Innovation: Technology, Market, and Complexity*, 1, 1-10.
- Czernich, N., Falck, O., Kretschmer, T., & Woessmann, L. (2011). Broadband Infrastructure and Economic Growth. *The Economic Journal*, 121, 505-532.
- Dahnil, M. I., Marzuki, K. M., Langgat, J., & Fabeil, N. F. (2014). Factors Influencing SMEs Adoption of Social Media Marketing. *Procedia - Social and Behavioral Sciences*, 148, 119-126.
- Daveri, F., & Parisi, M.L. (2010). *Experience, Innovation and Productivity Empirical Evidence from Italy's Slowdown*. Technical Report.
- Davis, F. D. (1985). *A technology acceptance model for empirically testing new enduser information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, 319-340.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.
- de Vries, L., Gensler, S., & Leeftang, P.S.H. (2012). Popularity of Brand Posts on Brand Fan Pages: An Investigation of the Effects of Social Media Marketing. *Journal of Interactive Marketing*, 26, 2, 83-91.
- Debruyne, M., & Reibstein, D.J. (2005). Competitor see, competitor do: incumbent entry in new market niches. *Marketing Science*, 24(1), 55-66.
- Dehghani, M., & Tumer, M. (2015). A research on effectiveness of Facebook advertising on enhancing purchase intention of consumers. *Computers in Human Behavior*, 49, 597-600.
- Dessart, L., Veloutsou, C., & Morgan-Thomas, A. (2015). Consumer engagement in online brand communities: a social media perspective. *Journal of Product & Brand Management*, 24(1), 28-42.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Dewan, S., & Riggins, F.J. (2005). The Digital Divide: Current and Future Research Directions. *Journal of the Association for the Information Systems*, 6(12), 298-337.
- Doll, W. J., Hendrickson, A., & Deng, X. (1998). Using Davis's Perceived Usefulness and Ease-of-Use Instruments for Decision Making: A Confirmatory and Multigroup Invariance Analysis. *Decision Sciences*, 29 (4), 839–69.
- Ellison, N. B., & Boyd, D. (2013). *Sociality through Social Network Sites*. In Dutton, W. H. (Ed.), *The Oxford Handbook of Internet Studies*. Oxford, UK: Oxford University Press.
- eMarketer 2018. *Worldwide Retail and Ecommerce Sales: eMarketer's Updated Forecast and New Mcommerce Estimates for 2016–2021*. Retrieved from <https://www.emarketer.com/Report/Worldwide-Retail-Ecommerce-Sales-eMarketers-Updated-Forecast-New-Mcommerce-Estimates-20162021/2002182>
- Eurostat Statistic Explained. (2017). Digital economy and society statistics – enterprises. http://ec.europa.eu/eurostat/statistics-explained/index.php/Information_society_statistics_-_enterprises. (Accessed 10 March 2017).
- Felix, R., Rauschnabel, P. A., & Hinsch, C. (2017). Elements of strategic social media marketing: A holistic framework. *Journal of Business Research*, 70, 118-126.
- Fernald, J. (2014). *Productivity and Potential Output Before, During, and After the Great Recession*. NBER Macroeconomics Annual, Volume 29.
- Firestein, P. J. (2006). Building and protecting corporate reputation. *Strategy & Leadership*, 34(4), 25–31.
- Forman, C. (2005). The corporate digital divide: determinants of internet adoption. *Manage Science*, 51, 641–654.
- Forman, C., Goldfarb, A., & Greensteins, S. (2005). Geographic location and the diffusion of Internet technology. *Electronic Commerce Research and Applications*, 4(1), 1–13.
- Fotis, J. N. (2015). *The use of social media and its impacts on consumer behaviour: The context of holiday travel (Doctoral thesis)*. Bournemouth University.
- Galati A., Crescimanno M., Tinervia S., & Fagnani F. (2017). Social media as a strategic marketing tool in the Sicilian wine industry: Evidence from Facebook. *Wine Economic and Policy*, 6, 40-47.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Galati, A., Crescimanno, M., Giacomarra, M., & Tinervia, S. (2015). Organisational models in Sicilian ornamental firms: an empirical analysis based on the transaction cost theory. *New Medit*, 14 (4), 58-64.
- Galliano, D., Roux, P., & Soulie, N. (2011). ICT intensity of use and the geography of firms. *Environment and Planning*, 43(1), 67- 86.
- Gargallo-Castel, A., & Ramirez-Aleson, M. (2008). Human resources as facilitators of the adoption of information and communication technologies. *International Journal of Information Technology and Management*, 7(1), 405-420.
- Garicano, L., Lelarge, C., & Van Reenen, J. (2013). *Firm Size Distortions and the Productivity Distribution: Evidence from France*. NBER Working Paper 18841.
- Gaspar, J., & Glaeser, E.L. (1998). Information Technology and the Future of Cities. *Journal of Urban Economics*, 43, 136-156.
- Giuri, P., Torrisi, S., & Zinovyeva, N. (2008). ICT, skills, and organizational change evidence from Italian manufacturing firms. *Industrial and Corporate Change*, 17 (1), 29–64.
- Goldfarb, A. (2006). The (teaching) role of universities in the diffusion of the internet. *International Journal of Industrial Organization*, 24, 203–225.
- Gordon, R.J. (2016). *The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War*. Princeton: University Press.
- Greenstein, S., & McDevitt, R. (2009). *The broadband bonus: accounting for broadband internet's impact on U.S. GDP*. NBER working paper. National Bureau of Economic Research, Cambridge.
- Grimes, A., Ren, C., & Stevens, P. (2012). The need for speed: impacts of internet connectivity on firm productivity. *Journal of Productivity Analysis*, 37(2), 187-201.
- Gros, D. (2011). *What is holding Italy back?*. VoxEU.org 2011.
- Gunelius, S. (2011). *30 minute social media marketing: Step by step techniques to spread the words about your business*. New York: McGraw-Hill.
- Hagen, H-O., & Zeed, J. (2005). Does ICT use matter for firm productivity? Yearbook on productivity 2005, Statistics Sweden.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Hagsten, E. & Kotnik, P. (2017). ICT as facilitator of internationalisation in small and medium-sized firms. *Small Business Economics*, 48, 431–446.
- Haller, S., & Siedschlag, I. (2011). Determinants of ICT adoption: Evidence from firm-level data. *Applied Economics*, 43(26), 3775–3788.
- Hernaus, T., Pejic Bach, M., & Bosilj Vuksic, V. (2012). Influence of strategic approach to BPM on financial and non-financial performance. *Baltic Journal of Management*, 7(4), 376-396.
- Higon, D. A. (2011). The impact of ICT on innovation activities: evidence for UK SMEs. *International Small Business Journal*, 30(6), 684-699.
- Hisrich, R. D., Langan-Fox, J., & Grant, S. (2007). Entrepreneurship research and practice. A call to action for psychology. *American Psychologist*, 62, 575–589.
- Hubbard, T. (2000). The demand for monitoring technologies: the case of trucking. *Quarterly Journal of Economics*, 116, 533–560.
- Istat, 2014. *Cittadini, imprese e Ict*. Retrieved from <https://www.istat.it/it/files/2016/12/Cittadini-Imprese-e-nuove-tecnologie.pdf>
- Kahar, R., Yamimi, F., Bunari, G., & Habil, H. (2012). Trusting the Social Media in Small Business. *Procedia - Social and Behavioral Sciences*, 66, 564-570.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53, 59–68.
- Kietzman, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241–251.
- Kim, S., Koh, Y., Cha, J., & Lee, S. (2015). Effects of social media on firm value for U.S. restaurant companies. *International Journal of Hospitality Management*, 49(1), 40–46.
- Kolvereid, L. (1996). Organizational employment versus self-employment, pp. Reasons for career choice intentions. *Entrepreneurship Theory and Practice*, 20(3), 23–31.
- Kraemer, K. L., Ganley, D., & Dewan, S. (2005). Across the digital divide: A cross-country multitechnology analysis of the determinants of IT penetration. *Journal of the Association for Information Systems*, 6(12), 10.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15, 411-432.
- Lasch, F., Robert, F., & Le Roy, F. (2013). Regional determinants of ICT new firm formation. *Small Business Economics*, 40, 671–686.
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3), 130-141.
- Leitão, J., & Ferreira, J. (2009). Entrepreneurship and ICT: A Comparative Analysis between Germany and Portugal. *International Journal of Entrepreneurship and Small Business*, 7(3), 324-346.
- Libai, B., Bolton, R., Bügel, M. S., de Ruyter, K., Götz, O., Risselada, H., & Stephen, A. T. (2010). Customer-to-customer interactions: Broadening the scope of word of mouth research. *Journal of Service Research*, 13(3), 267-282.
- Liñán, F., & Chen, Y.W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617.
- Littunen, H. (2000). Networks and local environmental characteristics in the survival of new firms. *Small Business Economics*, 15, 59-71.
- Lohrke, F., Franklin, G., & Frownfelter-Lohrke, C. (2006). The Internet as an information conduit: A transaction cost analysis model of US SME Internet use. *International Small Business Journal*, 24(2), 159-78.
- Lucchese, M., Nascia, L., & Pianta, M. (2016). Industrial policy and technology in Italy. *Economia e Politica Industriale*, 43(3), 233–260.
- Lucchetti, R. & Sterlacchini, A. (2004). The Adoption of ICT among SMEs Evidence from an Italian Survey. *Small Business Economics*, 23, 151–168.
- Luo, X., & Zhang, J. (2013). How do consumer buzz and traffic. *Journal of Management Information Systems*, 30, 213–238.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Maiolini, R., Marra, A., Baldassarri, C., & Carlei, V. (2016). Digital Technologies for Social Innovation: An Empirical Recognition on the New Enablers. *Journal of Technology Management & Innovation*, 11(4).
- Martin, F. M., Ciofica, L., & Cristescua, M. P. (2013). Implication of Human Capital in the Development of SMEs through the ICT Adoption. *Procedia Economics and Finance*, 6, 748 – 753.
- Martin, L., & Omrani, N. (2015). An assessment of trends in technology use, innovative work practices and employees' attitudes in europe. *Applied Economics*, 47(6), 623–638.
- Mason, S.M., & Hacker, K.L. (2003). Applying Communication Theory to Digital Divide Research. *IT and Society*, 1(5), 40-55.
- Matthews, P. (2007). ICT assimilation and SME expansion. *Journal of International Development*, 19, 817–827.
- Mazza, B., & Palermo, A. (2018) Social media content for business and user engagement on Facebook. *ESSACHESS-Journal for Communication Studies*, 11 (1), 49-73.
- McKelvie, A., & Wiklund, J. (2004). *How knowledge affects opportunity discovery and exploitation among new ventures in dynamic markets*, in Butler, J. (Ed.), *Research in Entrepreneurship and Management Vol. 4*, Information Age Publishing, Greenwich, CT, pp. 219-40.
- Morgan, A., Colebourne, D., & Thomas, B. (2006). The development of ICT advisors for SME businesses An innovative approach. *Technovation*, 26, 980–987.
- Morgan-Thomas, A. (2009). Online activities and export performance of the smaller firm: a capability perspective. *European Journal of International Management*, 3(3), 266-285.
- Osatuyi, B. (2015). Personality Traits And Information Privacy Concern on Social Media Platforms. *The Journal of Computer Information Systems*, 55 (4), 11-19.
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). *The Measurement of Meaning*. Urbana: University of Illinois Press.
- Oztamur, D. & Karakadilar, I. S. (2014). Exploring the role of social media for SMEs: A new marketing strategy tool for the firm performance perspective. *Procedia - Social and Behavioral Sciences*, 150, 511–520.



UNIVERSITÀ DEGLI STUDI DI PALERMO

- Paniagua, J., & Sapena, J. (2014). Business performance and social media: love or hate?. *Business Horizons*, 57(6), 719–728.
- Papa, A., Santoro, G., Tirabeni, L., & Monge, F. (2018). Social media as tool for facilitating knowledge creation and innovation in small and medium enterprises. *Baltic Journal of Management*, 13, 329-344.
- Park, J. Y., Sung, C. S., & Im, I. (2017). Does Social Media Use Influence Entrepreneurial Opportunity? A Review of its Moderating Role. *Sustainability*, 9, 1593.
- Pellegrino, B., & Zingales, L. (2014). *Diagnosing the Italian Disease*. Working Paper, 2014.
- Pellegrino, B., & Zingales, L. (2017). Diagnosing the Italian disease. *National Bureau of Economic Research*, 54.
- Pentina, I., Koh, A. C., & Le, T.T. (2012). Adoption of social networks marketing by SMEs exploring the role of social influences and experience in technology acceptance. *International Journal Internet Marketing and Advertising*, 10.
- Qiang, C. Z., Rossotto, C., & Kimura, K. (2009). *Economic Impacts of Broadband*. Washington D.C.: World Bank.
- Quercia Bianchi, G., Hüsken, G., & Brouwers, H. J. H. (2012). Water demand of amorphous nano silica and their impact on the workability of cement paste. *Cement and Concrete Research*, 42(2), 344-357.
- Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior*, 25(2), 578-586.
- Rovira, S., Santoleri, P., & Stumpo, G. (2013). *Incorporación de TIC en el sector productivo: uso y desuso de las políticas públicas para favorecer su difusión. Entre mitos y realidades. TIC, políticas públicas y desarrollo productivo en America Latina*. Santiago: CEPAL.
- Ruehl, C. H., Ruehl, C. H., Ingenhoff, D., & Ingenhoff, D. (2017). Communication management 2.0: The development of three socio-cognitive models for brand page usage. *Journal of Communication Management*, 21(2), 170-185.



UNIVERSITÀ DEGLI STUDI DI PALERMO

Ruggieri, S., Bonfanti, R., & Scrima, F. (2018). Interaction through Social Media: Development and Validation of a Social Network Site Self-Efficacy Scale (SNSSES). *Submitted for publication.*

Ruiz-Rodríguez, F., Lucendo-Monedero, A., & Gonzalez-Relano, R. (2018). Measurement and characterisation of the Digital Divide of Spanish regions at enterprise level. A comparative analysis with the European context. *Telecommunications Policy*, 42, 187–211.

Schivardi, F., & Schmitz, T. (2017). *The ICT Revolution and Italy's Two Lost Decades*. Working paper, Innocenzo Gasparini Institute for Economic Research, Bocconi University, Milan

Schivardi, F., & Torrini, R. (2008). Identifying the effects of firing restrictions through size-contingent differences in regulation. *Labour Economics*, 15(3), 482-511.

Schniederjans, D. (2013). Enhancing financial performance with social media: An impression management perspective. *Decision Support Systems*, 55(4), 911–918.

Scuderi, A., & Sturiale, L. (2014). Analysis of social network applications for organic agrifood products. *International Journal of Agricultural Resources, Governance and Ecology*, 10, 176–189

Segars, A., & Grover, V. (1993). Re-Examining Perceived Ease of Use and Usefulness A Confirmatory Factor Analysis. *MIS Quarterly*, 17, 517-525.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. *Journal of Consumer Research*, 15, 325-343.

Skrinjar, R., Bosilj Vuksic, V., & Indihar Stemberger, M. (2010). Adoption of Business Process Orientation Practices: Slovenian and Croatian Survey. *Business Systems Research*, 1(1-2), 5-19.

Spanos, Y.E., Prastacos, G.P., & Pulymenakou, A. (2002). The relationship Between Information and Communication Technologies Adoption and Management. *Information and Management*, 39(8), 659-675.

Stieger, S., Burger, C., Bohn, M., & Voracek, M. (2013). Who commits virtual identity suicide? Differences in privacy concerns, internet addiction, and personality between



UNIVERSITÀ DEGLI STUDI DI PALERMO

Facebook users and quitters. *Cyberpsychology, Behavior and Social Networking*, 16(9), 629e634.

Taprial, V. & Kanwar, P. (2012). *Understanding Social Media*. United States: Ventus Publishing.

Tarutè, A., & Gatautis, R. (2014). ICT impact on SMEs performance. *Contemporary Issues in Business, Management and Education*, 110, 1218 – 1225.

Taylor, S., & Todd, P. A. (1995). Assessing IT Usage: The Role of Prior Experience. *MIS Quarterly*, 19(2), 561-570

Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice*, 33(3), 669–694.

Trainor, K. J. (2012). Relating Social Media Technologies to Performance: A Capabilities-Based Perspective. *Journal of Personal Selling & Sales Management*, 32(3), 317–331.

Treem, J. W., & Leonardi, P. M. (2016). *Expertise, Communication, and Organizing*. Oxford University Press.

Van Gelderen, M. W., Sayers, J., & Keen, C. (2008). Homebased Internet businesses as drivers of variety. *Journal of Small Business and Enterprise Development*, 15(1), 162–177.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.

Warshaw, P., & Davis, F. (1985). Disentangling behavioral intention and behavioral expectation. *Journal of Experimental Social Psychology*, 21, 213-228.

Wu, C.W. (2016). The performance impact of social media in the chain store industry. *Journal of Business Research*, 04, 130-137.

Wu, I. L., & Chen, J. L. (2005). An extension of Trust and TAM model with TPB in the initial adoption of on-line tax: an empirical study. *International Journal of Human-Computer Studies*, 62(6), 784-808.

Yaakobi, E., & Goldenberg, J. (2014). Social relationships and information dissemination in virtual social network systems: An attachment theory perspective. *Computers in Human Behavior*, 38, 127–135.

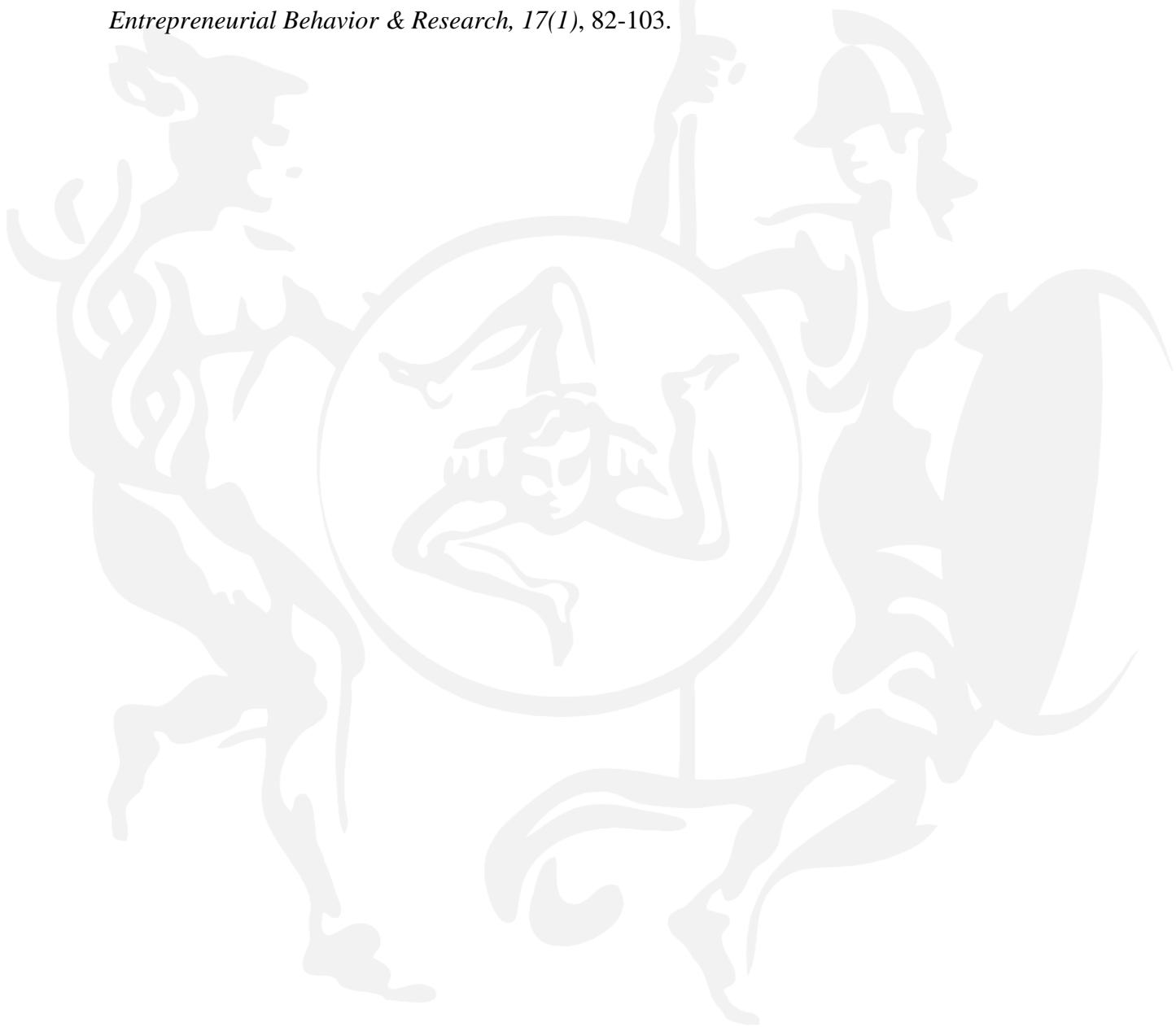


UNIVERSITÀ DEGLI STUDI DI PALERMO

Yu, L. (2006). Understanding Information Inequality: Making Sense of the Literature of the Information and Digital Divides. *Journal of Librarianship and Information Science*, 38(4), 229-252.

Yu, Y., Duan, W., & Cao, Q. (2013). The impact of social and conventional media on firm equity value: A sentiment analysis approach. *Decision Support Systems*, 55 (4), 919–926.

Zhang, D., & Bruning, E., (2011). Personal characteristics and strategic orientation: entrepreneurs in Canadian manufacturing companies. *International Journal of Entrepreneurial Behavior & Research*, 17(1), 82-103.





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APPENDIX 1

Table 13: List of variables. Source: ISTAT, 2015.

Variable Type	Variable Name	Description
Size	Small	10 - 49 employees
	Medium_Small	50 - 99 employees
	Medium_Large	100 - 249 employees
	Large	250 or more employees
Sector	Manufacturing	
	Energy	
	Building	
	Services	
Localization	North-West	Piemonte, Valle d'Aosta, Liguria, Lombardia
	North-East	Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, Emilia-Romagna
	Centre	Toscana, Umbria, Marche, Lazio
	South	Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, Sardegna
Social Media usage in enterprises by typology	Facebook-type	Social networks (e.g. Facebook, LinkedIn, Xing, Viadeo, Yammer, etc.)
	Twitter-type	Enterprise's blog or microblogs (e.g. Twitter, Present.ly, etc.)
	YouTube-type	Multimedia content sharing websites (e.g. YouTube, Flickr, Picasa, SlideShare, etc.)
	Wiki-type	Wiki based knowledge sharing tools
Social Media by purpose in enterprises	Marketing (M)	Develop the enterprise's image or market products (e.g. advertising or launching products, etc)
	Customers (C)	Obtain or respond to customer opinions, reviews, questions
	Innovation (I)	Involve customers in development or innovation of goods or services
	Cooperation (Co)	Collaborate with business partners (e.g. suppliers, etc.) or other organisations (e.g. public authorities, non governmental organisations, etc.)
	JobMarket (J)	Recruit employees
	Employees (E)	Exchange views, opinions or knowledge within the enterprise
Internal Variables (Human resources)	Ict_Workers	Presence of ICT specialists.
	Training1	Training for ICT specialists
	Training2	Training for other persons employed
Internal Variables (Technological endowment)	Mobile	Use of a Mobile Connection
	Web_Site	Use of a Website
	Security	Use of measures, controls and procedures applied on ICT systems.
External Variables	Broadband Connection	Broadband1: Less 2 Mbit/s
	Download	Broadband2: at least 2 but less than 10 Mbit/s
	Speed	Broadband3: at least 10 but less than 30 Mbit/s
		Broadband4: at least 30 but less than 100 Mbit/s
		Broadband5: at least 100 Mbit/s



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APPENDIX 2

Table 14: List of variables, Pilot Study.

Variable Type	Variable Name	Description
Theory of Planned Behaviour	Attitude	Item 20 Questionnaire
	Subjective norms	Item 21-22 Questionnaire
	Perceived Behavior Controll	Item 23-27 Questionnaire
	Behavioural Intention	Item 28 Questionnaire
Technology acceptance model	Perceived Usefulness	Item 19 Questionnaire
	Perceived Easy of Use	Item 1-18 Questionnaire
Control Variables	Age	/
	Gender	Female (reference category)
		Male
	Marital Status	Status 1: Single (reference category)
		Status 2: Married
		Status 3: Divorced
		Status 4: Widowed
	Education	Lower Secondary School (reference category)
		Upper Secondary School
	Children	Yes (reference category)
		No
	Staff Members	No Employee (reference category)
		1 Employee
		2 Employees
3 Or + Employees (from 3 to 5 employees)		
Firm's Age	/	



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APPENDIX 3

Il questionario seguente è stato concepito per conoscere il punto di vista di chi, come te, lavora nel mondo del commercio e della produzione artigianale.

Per ciascuna delle seguenti affermazioni, dovrai indicare il tuo punto di vista rispetto all'affermazione in questione. Ti garantiamo che le risposte che fornirai (totalmente in forma anonima) saranno analizzate assieme a quelle di centinaia di altre persone e che i risultati ottenuti saranno impiegati unicamente per finalità scientifiche. Speriamo altresì di poterti fornire nel più breve tempo possibile un feedback informativo per poterti aiutare nella tua attività.

Relativamente alla compilazione, considera che non esistono risposte “giuste” o “sbagliate”: esistono invece modi personali di interpretare la realtà, e noi siamo interessati al fatto che siano proprio questi ad emergere.

Ti ringraziamo per l'impegno nell'eseguire il compito richiesto: segui l'ordine in cui le frasi compaiono, non saltare da una parte all'altra del questionario e non ritornare sulle risposte già date.

Età _____

Sesso: Maschio Femmina

Titolo di studio posseduto

- Licenza media
- Diploma
- Laurea
- Altro (specificare): _____

Stato civile:

- Celibe/nubile
- Coniugato/a
- Divorziato/a
- Vedovo/a

Numero figli:

Età dei figli:

In quale anno è nata la tua attività artigianale/commerciale:

Indicare il numero degli addetti della tua attività artigianale/commerciale (compresi i familiari che ti aiutano):



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Indicare il valore totale del fatturato annuo derivante dalle vendite di prodotti della tua attività artigianale/commerciale:

- Meno di 10000 euro
- Da 10001 a 30000
- Da 30001 a 60000
- Da 60001 a 90000
- Da 90001 a 120000
- Da 120000 a 150000
- Da 150001 a 200000
- Da 200001 a 500000
- Più di 500001

Quali dei seguenti Social Network utilizzi per la tua attività artigianale/commerciale (rispondi solo se li utilizzi):

- Facebook
- Instagram
- Twitter
- Altro (specificare): _____

A quale scopo utilizzi i Social Network per la tua attività artigianale/commerciale:

- Sviluppare l'immagine della mia attività artigianale/commerciale e dei miei prodotti
- Ricevere o rispondere alle opinioni/domande/recensioni dei clienti
- Coinvolgere i clienti nello sviluppo o nell'innovazione della mia attività artigianale/commerciale
- Collaborare con altre persone che lavorano nel mondo del commercio e della produzione artigiana
- Altro (specificare): _____

Pensa ai Social Network che più utilizzi e rispondi alle domande che ti verranno poste.

Quando parliamo di Social Network facciamo riferimento ai più comuni, Facebook, Instagram, LinkedIn, Pinterest, Flickr, Twitter, ecc. Nel rispondere alle domande ti chiediamo di pensare un po' a tutti i Social Network che utilizzi e non solo a quello che usi più spesso. Ti ricordiamo inoltre che tra i Social Network non sono inclusi i sistemi di instant messaging, come WhatsApp, Telegram, Messenger, ecc.

Ti chiediamo di leggere attentamente le affermazioni che di seguito verranno proposte e stabilire per ciascuna il tuo livello di accordo o disaccordo, indicando **con una crocetta** quale delle risposte proposte rispecchia maggiormente la tua opinione e/o l'utilizzo che Tu fai dei Social Network. Considera che non esistono risposte "giuste" o "sbagliate": esistono invece modi personali di utilizzare e di concepire i Social Network, e noi siamo interessati al fatto che siano proprio queste modalità ad emergere.

1. Controllo spessissimo le notifiche che provengono dai Social Network a cui sono iscritto

-
- 1 2 3 4 5

Assolutamente in
disaccordo

Assolutamente
d'accordo



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2. Rispondo in poco tempo ai commenti sui miei post

1 2 3 4 5

Assolutamente in
disaccordo

Assolutamente
d'accordo

3. Quando mi confronto con ogni problema sui Social Network sono in grado di risolverlo da solo/a

1 2 3 4 5

Assolutamente in
disaccordo

Assolutamente
d'accordo

4. So molto bene come navigare sui Social Network da uno smartphone

1 2 3 4 5

Assolutamente in
disaccordo

Assolutamente
d'accordo

5. Sono capace di installare, disinstallare e configurare un Social Network

1 2 3 4 5

Assolutamente in
disaccordo

Assolutamente
d'accordo

6. Sono capace di editare e gestire profili sui Social Network

1 2 3 4 5

Assolutamente in
disaccordo

Assolutamente
d'accordo

7. So cancellare e aggiungere amici sui Social Network (laddove il sistema lo consente)

1 2 3 4 5

Assolutamente in
disaccordo

Assolutamente
d'accordo



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8. So come postare messaggi sulla bacheca degli amici (in quelli che lo consentono)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

9. So come rispondere ai commenti dai miei amici/contatti sui Social Network

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

10. So come commentare lo status, foto e post dei miei amici/contatti (nei Social Network che lo consentono)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

11. So come inserire foto sui Social Network (in quelli che lo consentono)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

12. So come condividere i post altrui (nei Social Network che lo consentono)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

13. So come utilizzare i Social Network per trovare le informazioni per me importanti

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	



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14. I Social Network favoriscono la mia capacità di costruire relazioni sociali

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

15. Usare i Social Network mi rende felice

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

16. Usare Social Network mi fa sentire soddisfatto/a

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

17. Usare Social Network mi rilassa

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

18. Impiego molto tempo ad osservare post/foto/video/profili altrui

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

19. Per te un'attività artigianale/commerciale svolta esclusivamente mediante i Social Network è:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Inutile				Utile



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20. Per te un'attività artigianale/commerciale svolta esclusivamente mediante i Social Network è (non preoccuparti se alcuni aggettivi potrebbero sembrarti lontani dal buon senso):

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Cattiva				Buona

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Brutta				Bella

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Indesiderabile				Desiderabile

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Debole				Forte

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Fragile				Resistente

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Lenta				Veloce

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Passiva				Attiva



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21. La persona per me più significativa (genitore, partner, ecc.) ritiene che l'utilizzo dei Social Network sia un elemento fondamentale per sviluppare la mia attività artigianale/commerciale.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

22. I miei amici ritengono che l'utilizzo dei Social Network sia un elemento fondamentale per sviluppare la mia attività artigianale/commerciale.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

23. Penso di possedere tutte le **capacità comunicative/relazionali** per la gestione della mia (o di una mia ipotetica) attività artigianale/commerciale sviluppata esclusivamente tramite i *Social Network*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo

24. Penso di possedere tutte le **capacità tecnologiche** per la gestione della mia (o di una mia ipotetica) attività artigianale/commerciale sviluppata esclusivamente tramite i *Social Network*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo				Assolutamente d'accordo



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25. Penso di possedere tutte le **capacità amministrative/burocratiche** per la gestione della mia (o di una mia ipotetica) attività artigianale/commerciale sviluppata esclusivamente tramite i *Social Network*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

26. Penso di possedere tutte le **capacità commerciali** per la gestione della mia (o di una mia ipotetica) attività artigianale/commerciale sviluppata esclusivamente tramite i *Social Network*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

27. Posseggo le **risorse economiche per gestire/avviare** una attività artigianale/commerciale attraverso i *Social Network*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	

28. È mia intenzione cominciare a utilizzare (o continuare a utilizzare) in modo molto più intenso i *Social Network* per la mia attività artigianale/commerciale.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Assolutamente in disaccordo			Assolutamente d'accordo	