

UNDERSTANDING THE IMPACT OF THE ECOLOGICAL TRANSACTION ON THE HUMAN CAPITAL OF UNIVERSITY STUDENTS: A CROSS-COUNTRY ANALYSIS

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Firm live in an increasingly competitive environment is subject to rapid change. Hence, new skills and knowledge in sustainability and green management practices represent new competitive levers. For this reason, it is necessary to train a new generation of workers and managers oriented towards these new practices. In this respect, Universities hold the most suitable means for training young workers and managers. The current study aims at examining how universities are responding to the needs of a new human capital. The study is based on the exploratory and inductive methodologies through a multi-step methodological process, a questionnaire was administered to university students from 4 different countries (Georgia, Hungary, Ukraine and Italy). This study offers several elements of originality. In particular, a multilevel analysis is offered on the educational needs of students in terms of sustainability and green management skills. Furthermore, a comparative analysis between 4 different countries is offered. The findings of this study offer interesting practical implications. In particular, the results highlight that university students are interested in deepening their preparation on sustainability issues to increase their employability. In addition, the results can suggest indications to university managers and decision makers to guide the educational offer

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1 Introduction

The documents for the European Commission, Industry 5.0 focuses on three main directions: Human-centric, Sustainable and resilient. Researchers predict that Industry 5.0 will help the formation of Society 5.0. Consequentially, it is critical to prepare the workforce for the future challenges. Furthermore, developing an effective response to upskilling and reskilling is a challenge for universities. Organizations need new skills and knowledge to survive and increase their competitiveness. Considering these issues, various international research organizations and institutes (UN, World Economic Forum, etc.), as well as scholars (Sobolieva & Harashchenko, 2020) are focusing their attention on challenges of sustainable development and green management in the digital era. The last decades in management studies are marked by the intensification of the social corporate responsibility implementation and the shift of its focus towards environmental challenges (Taylor, 1992). Firms began to successfully integrate an environmental component into development strategies through the transformation of the production paradigm to the concept of three zeros: in addition to the two zero goals (defects and inventories), companies strive to achieve zero waste and emissions (Florida & Davison, 2001), which is the beginning of the development environmental management systems (EMS). This paper examines the literature relating to sustainability and green management issues. The brief analysis of the relevant literature allows the authors to understand the recent theoretical evolutions and analytical perspectives. The methodology part includes explanation of the steps and phases of the analysis. A questionnaire was created for university students. The paper ends with its implications, limitations, and future research direction issues.

2 Theoretical background

The European Union and the United Nations to shape more sustainable, safer and better world for all. According to the UN (2015) “the Agenda for Sustainable Development By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development” (Goal 4; 4.7 p.17/35).

In order to promote sustainable development and digital transformation, the education system as a whole, and universities in particular, have an important role to play. Researchers predict that focusing on the university will determine success

for sustainable development, the teaching, research and commercialization. The effective dialogue with business and public bodies helps to enter the market. It should be mentioned that this kind of relationship is possible to achieve in the modern model of universities (Etzkowitz and Zhou, 2008, Guerrero *et al.*, 2016, Gera *et al.*, 2021, Vesperi & Gagnidze, 2021).

The development of green management directly depends on the spread of green values in the organization, that is, the greening of organizational culture (Harris & Crane, 2002). This is ensured by the inclusion of an environmental component in the company's policy and strategy through decision-making and their implementation at all levels of the organization, considering green values. Organizational culture is highlighted as one of the important drivers of SME sustainability (Campos *et al.*, 2013, Shatilova *et al.*, 2021). Consideration of sustainability issues in the development of strategies, dissemination of knowledge and skills on sustainable development during education and training for personnel, were also named among the drivers. The authors believe that the education system is one of the key tools to achieve sustainability and sustainable development. This paper examines the literature relating to Sustainability and Green Management Issues. The methodology part includes explanation of the steps of the methodological process. An overview of the student survey questionnaire conducted by the authors is provided. The paper ends with its implications, limitations and future research direction issues.

3 Methodology

This study has the main objective of identifying and understanding the impact that ecological transaction issues are having on universities' educational offer. Universities represent complex organizations that have a direct impact on the human capital of society and future managers and employees. This study is based on a multi-step methodology. Qualitative and quantitative data were collected.

The first step of the methodology reports and reviews from the European Commission and other international organizations, such as the World Economic Forum and the UN, by consulting the official websites. Over 20 official documents were collected and analyzed about ecology transactions, human capital and universities/higher education. Subsequently, an academic literature analysis was

carried out, with the objective to offer a theoretical overview of the academic debate around the topics covered by this study. From the elements collected, both from the analysis of official documents and from the scientific literature of reference, a questionnaire was formulated. The questionnaire consists of 32 multiple choice items. To make the questionnaire more understandable and easier to read, the questionnaire was divided into three sections. The questions were grouped based on their informative purpose. Only n. 221 were considered complete and correctly completed.

4 Results

The questionnaire was administered to university students from four different countries (Georgia, Hungary, Italy and Ukraine). The small percentage of differences, in terms of participation, were subsequently neutralized using statistical tools. Figure 1 offers an overview of the geographical distribution of respondents.

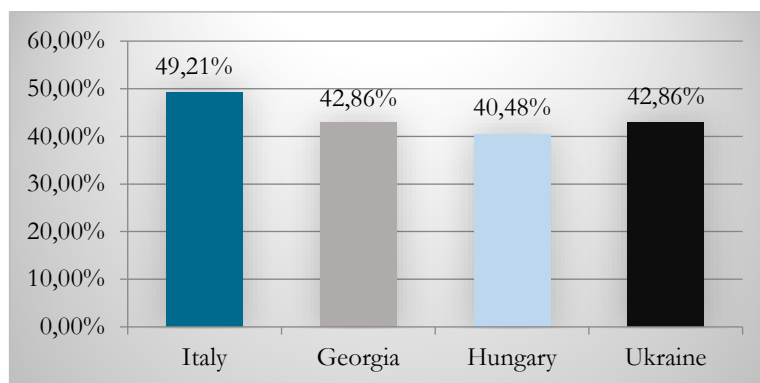


Figure 1: Geographical distribution of participants

Source: elaborated by the authors

By analyzing sections II and III of the questionnaires it was possible to understand the training needs of university students on the topics of sustainability and green management.

By descriptive statistical tools (mean, median, max and min value), it was possible to analyze the results of the individual sections and draw a first picture on the need of university students' training in terms of sustainability and green management skills.

Subsequently, the results of the individual sections were analyzed from a comparative perspective to understand the relationships with the variables taken into consideration.

The results of this study show that universities play a key role in the new challenges of sustainability and digital transactions of organizations and society. The results highlight that complex competitive challenges can be overcome by acting on the training offer, especially in universities. The results of the questionnaire show that these challenges can be overcome by orienting the university educational offer. Analyzing the data, what emerges is the lack of attention to the issue of sustainability in the choice of university or course of study by future university students. But during their university carrier they increase their sensitivity towards sustainability and green management issues.

At the same time, the presence within university structures of a center for raising awareness of environmental issues (separate waste bins, water recycling, etc.) has no value in the choice of university. From data analysis it emerges that university students, after having followed courses focused on the topics of sustainability, circular economy and green management, develop greater awareness. The average value of the category stands at around 3.82/5.00. Despite the fact, that students were less concerned with its sustainable practices when choosing a university to study, they highly appreciate the importance of teaching courses on sustainable development issues. In addition, students did not show a high desire to take an active part in the development of such courses, most respondents expressed to delve deeper into the study of the challenges of sustainable production and consumption. Human capital towards the issues of sustainability and green management, necessarily requires change in university educational offer. For this reason, the present study, thanks to a comparison between university students from four different countries, allows the authors to offer a transversal overview of the phenomenon. The results highlight a tendency for the female gender to be more oriented towards the issues of sustainability, the circular economy and green management. In summary, the results of this study highlight that the training of future university students must necessarily include the issues of sustainability, circular economy and green management. To respond to these new needs, an in the educational offer of universities is necessary. The students are particularly sensitive to all aspects of sustainability and consider every aspect significant for their future

employability. Changes within complex organizations such as universities (and higher education institutions, HEIs) are not easy to manage. First, changes in the training offer determine profound impacts on the change in the company's human capital and on future managers. On the other hand, changes in complex organizations, such as universities, are not immediate and simple, but require change management intervention.

5 Discussion

Changes in the higher education system have direct consequences on individuals' behavior. Therefore, introducing the issues of sustainable development and digital education can lead to a generation of citizens and managers who are more attentive and ready to respond to these new challenges.

From a practical point of view, the results of the study highlight the training needs that university students feel are most needed. The results can guide managers in planning the new training offer. From a methodological point of view, the results highlighted the effectiveness of the multistep methodology based on the administration of a questionnaire. In fact, the involvement of the students made it possible to recover privileged and solid information. At the same time, feedback was quickly collected.

6 Conclusions

The outcomes of this study have different implications. The results will help the university to better manage the process of changes and exploitation of the academic knowledge. At the same time, the findings can help the external actors of the university to understand the business opportunities based on academic knowledge and competitive advantage in the market. In particular, the results highlight that university students are interested in deepening their preparation on sustainability issues to increase their employability. In addition, the results can offer indications to university managers and decision makers to guide the educational offer.

Links established between universities, can strengthen sustainable development through international cooperation and benchmarking (Vesperi *et al.*, 2024); exchanging knowledge and sustainable practices; holding trainings, seminars,

conferences. The result of interaction between universities could introduce the joint educational programs on sustainable development (Vesperi et al., 2023), such as the Joint International Master in Sustainable Development launched by the joint efforts of eight universities from three different continents (Brudermann et al., 2017).

In fact, by acting on the training of university students, it is possible to introduce new skills and new knowledge within organizations. In general, in digital era, cooperation between countries is very important. The reason for this is that the three main directions of Industry 5.0 cannot be realised without international efforts.

References

- Awan, U., Braathen, P., & Hannola, L. (2023). When and how the implementation of green human resource management and data-driven culture to improve the firm sustainable environmental development? *Sustainable Development*.
- Brudermann, T., Holländer, R., Pastres, R., Posch, A., & Schot, P. (2017). Integrating interdisciplinarity and internationality in sustainable development education. *GALA-Ecological Perspectives for Science and Society*, 26(4), 360-362.
- Campos, T. L. R., Nunhes, T. V., Harney, B., & de Oliveira, O. J. (2023). Corporate sustainability in entrepreneurial settings: Green management and operational fairness as joint drivers of venture competitiveness. *Journal of Small Business and Enterprise Development*, 30(2), 342-368.
- Etzkowitz, H., & Zhou, C. (2008). Introduction to special issue Building the entrepreneurial university: a global perspective. *Science and Public Policy*, 35(9), 627-635. DOI: 10.3152/030234208X363178.
- Gera, N., Vesperi, W., Fatta, D. D., Sahni, A., & Arora, A. (2021). Human resource development and spiritual intelligence: an investigation amongst management students in Delhi NCR. *International Journal of Innovation and Learning*, 29(1), 45-66.
- Guerrero, M., Urbano, D., & Fayolle, A. (2016). Entrepreneurial activity and regional competitiveness: evidence from European entrepreneurial universities. *The Journal of Technology Transfer*, 41, 105-131. DOI:10.1007/s10961-014-9377-4.
- Harris, L. C., & Crane, A. (2002). The greening of organizational culture: Management views on the depth, degree and diffusion of change. *Journal of organizational change management*, 15(3), 214-234. <https://doi.org/10.1108/09534810210429273>
- Sobolieva, T., & Harashchenko, N. (2020). Intellectual property indicators and renewable energy trends. *Polityka Energetyczna*, 23(4), 17-32
- Shatilova, O., Sobolieva, T., & Vostryakov, O. (2021). Gender equality in the energy sector: analysis and empowerment. *Polityka Energetyczna*, 24(4):19-42
- Taylor, S. R. (1992). Green management: The next competitive weapon. *Futures*, 24(7), 669-680.
- UN (2015). Resolution, G. A. (2015). Transforming our world: the 2030 Agenda for Sustainable Development. *UN Doc. A/RES/70/1 (September 25, 2015)*.
- Vesperi, W., & Gagnidze, I. (2021). Rethinking the university system: toward the entrepreneurial university (the case of Italy). *Kybernetes*, 50(7), 2021-2041.
- Vesperi, W., Gagnidze, I., & Sobolieva, T. (2024). Industrial revolutions and human capital for the new normal: a cross-country analysis of the university system. *International Journal of Organizational Analysis*. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJOA-07-2023-3838>

- Vesperi, W., Gagnidze, I., & Sobolieva, T. (2023). Improving Human Capital for the New Normal: Challenges for the University System. Conference proceedings of the 2nd Conference in Business Research and Management, <https://www.aracneditrice.eu/antepime/9791221808780.pdf>