European Economic Letters
ISSN 2323-5233
Vol 13, Issue 1 (2023)
http://eelet.org.uk

Corporate Social Responsibility and Sustainability in Romania's Higher Education

[1] Melinda Timea Fülöp, [2]Nicolae Măgdaș, [3]Teodora Odett Breaz

[1] Faculty of Economics and Business Administration, Babes Bolyai University, 400591 Cluj Napoca, Romania,[2] Faculty of Economics and Business Administration, Babes Bolyai University, 400591 Cluj Napoca, Romania,[3] Faculty of Economic Sciences, 1 Decembrie 1918 University, 510009 Alba Iulia, Romania

[1]melinda.fulop@econ.ubbcluj.ro ,[2] nicolae.magdas@econ.ubbcluj.ro , [3]teodora.breaz@uab.ro

Abstract— Corporate social responsibility is becoming increasingly indispensable in academia due to its influence on university competitiveness and sustainability. The role of digitization is to ensure that we reach the university's long-term sustainability through CSR. The future of CRS depends not least on future generations, which are increasingly facing the acceptance of new technologies. Therefore, this study aimed to analyze the factors that influence the acceptance of technology by students in Romanian universities. The novelty of the study is the choice of a developing country. The results indicate that external factors do not influence perceived usefulness. Respectively, students consider that the perceived ease of use does not influence the behavior intention to use new technologies. Finally, we present the research's conclusions, limits, and perspectives on the acceptance of technologies to ensure sustainability and CSR in universities.

Index Terms—management, sustainability, universities, society, economy.

I. INTRODUCTION

As educational, research, and service institutions, universities are main actors in the sustainable development of society and the economy. Thus, an investigation is required regarding the institutional anchoring to sustainable developments and in what manner higher education encounters these potentials, in which directions pertinent to sustainability does higher education act in a forthcoming period, and where is a potential of optimization (Filho et al., 2015).

University sustainability must represent the dynamic participation of all universities in the development of strategies for the protection of the environment (Mori Junior et al., 2019). The sustainable higher education institutions are the single that, in addition to government engrossment, contributes to the protection and fortification of the environment by adjusting the program to environmental requirements and by advancing scientific information, as an outcome of education, research, and investigation activities.

The way in which the society currently operates, through the expansion of manufacture and consumption of goods and services, is not feasible, and determines a damaging consequence in the further or in the extended run. This characteristic has presently resolute and powerful apprehension in the academical domain, concerning the sustainability development.

The results indicate that sustainability is a worldwide issue that remains a challenge from both business, corporate, and individual perspectives (Camilleri, 2016). Moreover, universities must adapt to the new demands of the market and more than to applying the objectives of sustainable development in view of collective well-being. Moreover, as the requirements for the development of education are presented in the OECD 2030 agenda, the literature indicates the transformation of education towards the digital environment and sheds more and more light on the importance of e-learning (Ossiannilsson, 2020). In addition to that, we can consider the health crisis caused by Covid-19 as a turning point in the development of digital education. Our social responsibility is to approach ourselves more wisely and objectively for our well-being. We exist to avoid the exhaustion of the natural resources, to ensure left-over administration, to prevent contamination, and to collaborate with the respect of the nation.

As key actors in our society, universities have a special responsibility for sustainable development. However, universities can only use their full potential if they transform from within and find a new self-image as drivers of sustainable development in their roles as educational and research institutions, service companies and partners for students and groups by actors outside the university.

University performance management was complemented by the 2030 higher education strategy based on the UN 2030 Agenda and the OECD outline on the future of education and the skills we need to consider in the future. The need for digitization and the role of e-learning was also debated here (Hughson& Wood, 2022).

The UN has developed and published the 2030 agenda on sustainable development, which includes 17 essential objectives,

among which we also find the objective of developing education to make universities become more sustainable. The 17 Sustainable Development Goals remained to increase awareness of several facets of sustainability by highlighting explicit goals that include a strategy of accomplishment for a wide series of societal, ecological, and technical problems, since reducing deficiency, well-being, health, infrastructure progress, education, gender equality, to the sustainable use of oceans, energy, water and sanitation. The 17 goals can be associated with engineering and each needs engineering to achieve its goal (Castillo-Villar, 2020).

The special responsibility regarding the development of innovative technologies can protect the environment; thus the challenges of today's engineers became clear. Engineering is a special protagonist in addressing elementary social requirements by refining the value of our lives and generating chances for sustainable development locally, nationally, regionally and globally. Today, sustainability is no longer just a principle of action for optimizing the use of resources in an economic sense, but rather the responsible handling of our environment in technical, economic, and social implementation. Engineering sciences were and are the converters of these resources into practice.

Globalized general education has fundamentally influenced higher education to outline its mechanisms for education and progress, transfer, and continuous development. Universities could no longer be dependent on traditional learning systems to face the challenges generated by the globalization phenomenon (Hughson, 2022). Thus, we considered it valuable to propose a comprehensive model regarding the management and sustainability of universities based on the completeness offered by the digital transformation, respectively, considering the objectives of the 2030 agenda issued by the UN and the 2030 learning compass issued by the OECD.

The novelty of the research is given by the contribution to the state of knowledge by synthesizing the findings from the specialized literature and the UN 2030 Agenda and the OECD 2030 Learning Compass, respectively, through the proposal of a comprehensive model of university sustainability. The conceptual framework aims at a review of the concept of university sustainability and its implications, respectively, the starting point for the proposal of a conceptual model, which we believe can be a good implementation guide for universities. At the end of the research, we present a series of conclusions that emphasize the contribution made to the specialized literature, respectively, the significant contributions regarding the adaptation of universities to a sustainable and sustainable system according to the requirements of the UN and OCED for the future of higher education. As in any research, we make a series of proposals, respectively, we present a series of research perspectives because every end is a new beginning for future research.

II. RESEARCH METHODOLOGY

The general purpose of this scientific methodology is to examine the sustainability of universities in terms of sustainability developments. To achieve the objectives, our research method is based on an inductive approach, because we use the means of observation and induction, but also on a deductive approach, because our starting point is theoretical one (Gray et al., 2007). Our research is based on a general-to-specific approach, which integrates both quantitative and qualitative research.

Moreover, the research aims to synthesize theoretical and applied results in academies as transformation managers for sustainable expansion. The subject of sustainability is progressively existing among the apprehensions of the worldwide academic community. However, the complexity of our unmaintainable tasks advises that inadequate evolution of consumes change from unmaintainable lifestyles to sustainable development (El-Jardali et al., 2018). Moreover, this research aims to build a modern academia with sustainable values to meet market demands and ensure the needs of future generations. The excellence of a sustainable university can be defined by a university's ability to outclass in the five essential parts: research, teaching/learning, knowledge transfer, organization, and governance.

By sharing concepts, ideas, apparatuses, and knowledges learned in diverse circumstances, it is expected that we drive altogether study several things that motivated us to help our higher education groups develop their skills to make progress towards sustainable development.

Good management has now become the attention of various corporate and business approaches; by implementing sustainable performs, universities can gain a competitive benefit in the marketplace (Camilleri, 2016). Thus, the sustainable of the academics can be a prototypical model for administrations, businesses that need to be involved in the development of conversion to sustainability, and is also the promoter of future generations in the implementation of sustainable development.

The model is based on results from several arias of study and establish a concept that needs additional confirmation through supplementary studies that will examine the context. The comprehensive model proposed by us presents the sustainable university model and the stages that university managers must follow in implementing the new requirements to transform the university into a sustainable organization. Furthermore, this comprehensive model offers a self-assessment method that higher education institutions should apply to identify the gaps they currently face. Ridder (2014) defined a theoretical model as a graphic or written artefact that elucidates, in any writing or graphical arrangement the main issues, ideas, or variables that make it up. Developing a model also helps to present the assumed associations that exist among the elements of the framework.

European Economic Letters
ISSN 2323-5233
Vol 13, Issue 1 (2023)
http://eelet.org.uk

III. UNIVERSITY SUSTAINABILITY DEVELOPMENTS IN THE LITERATURE

In the last decade, the issue of sustainability (sustainable development) has become the most thorny and publicized issue in all corners of the world. To ask ourselves, "How important is the sustainability of higher education?" would fall into the category of the worst possible questions. Historically and socially speaking, it is useless to demonstrate that human development, well-being, and security are the primary derivatives of the educational system in general and higher education in particular.

The sustainability of the higher education system must be looked at both at the micro-level and at the system level, from several points of view:

as a process of organizational management - through the prism of the conditions and policies of sustainability in the university;

as a direct process of the current academic activities at the level of each institution - through the prism of the development of the educational offer;

as a two-way process – the academic environment and the economic environment;

as a regional and/or national strategy – through the policies and strategies developed.

In order to provide a detailed analysis of sustainability and management following the latest developments in the literature (Caputo et al., 2018), we present a systematic review of the literature supported by bibliometric analysis based on the technique of visualizing their similarities (VOS) (van Eck and Waltman, 2010,2018).

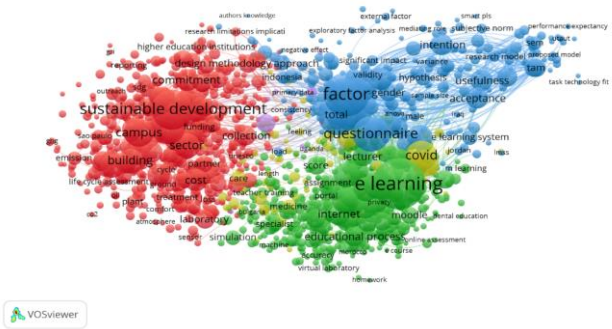
The first step involved a comprehensive search of the Thomson Reuters Web of Science Core Collection (WOS) database, which is recognized as the most reliable database for bibliometric studies because it searches across publishers and shows no publisher bias (Ding et al., 2014). In addition, it guarantees the inclusion of the most important journals. Indeed, to ensure that the WOS results are of high quality, they were quantitatively limited, the database was considered the most appropriate, following previous searches in the sustainability literature. According to the principles of systematic literature review (Mascarenhas et al., 2018; Bartolacci et al., 2020; Rahayu and Setiyani, 2022), a panel of experts was consulted to define the search keywords.

VOSviewer generates a temporal word map that can be used to reveal the frequency and recency of topics in this literature. In the temporal map of common words, the size of the nodes reflects the frequency of occurrence of the keywords, and the colors reflect their relative recency.

Keyword analysis serves to identify thematic foci by examining the frequency of co-occurrence of indexed key terms across studies. The analysis in Figure 1 serves to create a graphical overview and identify clusters of optically distinct subjects, so no network-wide analysis of network characteristics is performed for these networks. For the sake of clarity, the term acceptance threshold for the graphical representation was selected such that the 360 most frequent terms and their links are presented.

The "keyword analysis of university sustainability" (see Figure 1) essentially showed three clearly distinct areas. The red cluster targets the part of sustainability that deals with the part of costs, revenue, campus, organization, teaching, innovation, research, regulations, reporting, etc. The alabaster the part of ICT-based innovation technology, the impact on students and teachers, respectively, the green cluster that emphasizes and highlights the role of e-learning.

Figure 1. Cluster analysis on university sustainability



Source: VOSviewer

In general, sustainability is a comprehensive and complex notion that has stimulated important scientific discussions in current periods, thus creating countless attention at academic, community, and commercial stages. In 1987, the Brundtland Commission of the United Nations defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs"(Brundtland, 1987).

Sustainability can be considered with a macro-level associated to the general commercial structure, as fine as expending a

micro-level, positioning the examination on specific workers. Through orientation to the corporate flat, corporate sustainability is the assembly of the requirements of a entity stakeholders, without counting its ability to respond to the necessities of upcoming stockholders (Dyllick and Hockerts, 2002; Porter and Kramer, 2006; Alshehhi et al., 2018; Drempetic et al., 2020; Hermundsdottir and Aspelund, 2021). Business sustainability can be expressed in various behaviors; businesses have the role to create and preserve economical, societal, and ecological resources that are interrelated, mainly if sustainability is planned for a long term (Elkington, 1998; Landrum and Ohsowski, 2018). Supplementary, Corporate Social Responsibility (CSR) is the subject of important academical and specialized debates: academics argue that corporations must expand the societal and ecological influence of their actions, nevertheless, their labors must be straight associated with the business and approach entity (Cheema & Javed, 2017; Advantage, 2020).

The European Union recently launched an approach for a sustainable bioeconomy to reinforce the link between economy, society, and environment (European Commission, 2018). In a competition for limited resources with a increasing populace, worldwide encounters such as climate variation, land, and ecosystem deprivation force the exploration for novel ways of production and consumption, respect, and conservation of natural resources and the environment. The necessity to accomplish sustainability necessity is to joint with the formation of an ideal commercial setting for sustainable development, occupation creation, and novelty to guarantee the wealth of peoples and lands. As a consequence, all businesses must achieve good financial performance, not only to encounter the genuine potentials of the owners, but beyond all to warrant the sustained feasibility of the entity in the medium and long term and to endure to function in the interest of all investors (Almagtome et al., 2019, Sherstobitova et al., 2020; Pham et al., 2021).

In the development of sustainable development / sustainability policies and strategies, the most current event of historical importance occurred in 2015 at the UN General Assembly of the United Nations in New York, where the 2030 Agenda for Sustainable Development was adopted. Structured on the three pillars of sustainable development, economic, social and environmental - the 2030 Agenda was adopted by both Romania and the European Union. In 2019, by holding the presidency of the Council of the European Union, Romania was the European regional leader in the implementation of the Sustainable Development Goals (Castillo-Villar, 2020).

Although the application of sustainable growth as a social image would be reinforced in all educational areas, universities take a serious role in the performance in the general progression of sustainable growth efforts. Universities are not just responsible for the production and transference of applicable information, but moreover for allowing future transformation managers to contribute to a sustainable future (Barth, 2015; Leal Filho et al., 2018 Tasdemir and Gazo, 2020).

Universities support future transformation managers to obtain the essential skills to assume the social evolution with respect to sustainability developments.

Investigate on education for sustainable expansion in programs shapes on the custom of larger investigation on program modification (Dmochowski et al., 2016; Smigic et al., 2020; Tasdemir and Gazo, 2020). In the last period, there has remained an increasing form of effort on program modification procedures in academics to archive sustainable development (Dmochowski et al., 2016; Brudermann et al.2019; Smigic et al., 2020; Tasdemir and Gazo, 2020).

Additional empirical research is required on representative outlines of sustainability implementation in higher education in terms of form and extent of implementation, process characteristics, role of drivers and barriers, and different organizations' adaptation approaches. Early understanding from specific situation or investigation recommends that there are a restricted number of application models with explicit characteristics.

During the period of home isolation produced by COVID-19, universities have closed and all teaching has gone virtual, testing the sustainability of the education system. The crisis produced by COVID-19 has affected not only the educational side but also the research side in a variety of ways. For sustainable development investigate, the lockdown has meaningfully disturbed regular communication networks and, among other effects, led to the annulment of long-planned conferences and meetings. It also resulted in a delay in the transfer of study developments. There is a gap in the literature in determining how a worldwide emergency influences sustainability study (Rameez et al., 2020).

In particular, reflecting the application of the Sustainable Development Goals (SDGs), sustainable investigations need consolidative knowledge and the active participation of academic institutes and nonacademic performers, such as innovative corporations, cities, and civil society as a living laboratory (Wiek et al., 2014). To validate the efficiency of such studies and its social significances, a conversion to participating methods to sustainability can be a fruitful result (United Nations 2030 Agenda for Sustainable Development).

Sustainability is not just about resources, as our analysis shows. Sustainability occurs at all levels within a university, and each component can contribute to a better management of the university, respectively, to its management and performance.

In addition to good leadership and management of resources, financial or nature, an important implication in university sustainability concerns the educational process. Thus, he concludes that this educational process can be seen both from the

perspective of research, learning, transfer, and why not even organization. It is important that teaching staff are well trained so that there is a continuous need to try to be up to date with the latest news in the respective field to possibly identify new areas of research (Collazo Expósito & Granados Sánchez, 2020). The didactic act cannot take place without adequate transfer of knowledge. Many times, we do not even think about this essential component of the didactic adult, namely the way knowledge is transferred to students. This is where the increasingly important role of technology comes in, which facilitates an interactive transfer of knowledge and, more than that, offers a variety of teaching methods, knowledge transfer.

In our opinion, these represent the future basic characteristics of a sustainable and competitive university on the international market. Of course, this digitalization process also had a major impact due to the health crisis that led to forced digitalization in the university environment, but it is important to maintain and further develop the aspects that contribute to the performance and management of the university (Ossiannilsson, 2020).

In this sense, sustainable development is stimulating universities around the world to reconsider their mission and reorganize their university curriculum, research agendas, and campus life. The student's obligation is to be progressively exposed to concepts of sustainability, responsibility, and the correct attitude toward the environment.

IV. PROPOSAL OF A COMPREHENSIVE MODEL REGARDING THE MANAGEMENT AND SUSTAINABILITY OF EDUCATION

In order to achieve national, regional, and even global development, the sustainability of higher education is essential. Due to the rapid changes in information technology, namely the various communication channels that have become faster and more secure, the extent and nature of the benefits that these new technologies provide vary because there is a diversity of infrastructures for which there must be an adequate workforce (Hughson, 2022). Thus, universities play an increasingly important role in this process due to their role as a generator and dissemination of information and knowledge, and therefore the university has the obligation to develop and provide professionals with the necessary knowledge, skills, and competences to face dynamics in the market and that we face as individuals, society and organization (Kleimola & Leppisaari, 2022).

Education is the key to sustainably shaping the future (Kaplani & Zafiropoulos, 2022). Management theories have the power to change, as in the late 1990s the shareholder value approach or agency theory influenced the management of companies and universities; nowadays there is more and more talk of the 2030 Agenda for sustainable development issued by the United Nations and of the 2030 learning framework issued by the OECD (Hughson & Wood, 2022). To support the implementation of the sustainable development objectives of the 2030 agenda, universities must change their way of organization and management to achieve objective 4, which aims at quality education. To implement the basic objective of quality education, a national strategy would be welcome; however, no university should wait for government action as there are options for action that can be implemented within university autonomy (Albareda-Tiana et al., 2018).

Universities are of particular importance when it comes to implementing objectives. This is where knowledge, innovations, and solutions are available and developed. Future decision makers are trained and empowered to act. Universities transmit people and skills to society, and thus influence social discourse and debate.

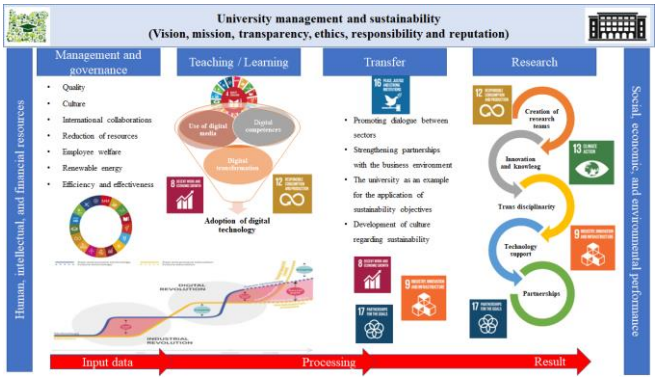
More and more universities are becoming aware of their social responsibility, their role as a model, and the associated opportunities. They anchor sustainability in their mission statement, sustainability advisory boards are established, national university networks for sustainability are created. In addition, more and more universities are not only addressing the topic of sustainability reporting in teaching and research, but also using reporting to showcase their institution's sustainability contribution.

The purpose of universities is to discover the optimal ways to become sustainable and not only to discover but also to succeed in implementing. The model that I have proposed supports universities and offers the possibility of adaptation according to the needs of each university, because the issue of sustainability is a complex one and can be approached differently by each actor involved in the adaptation process. However, we consider the model proposed by us as a guide for orientation, exploration, and, why not, the transformation of higher education into a promoter of sustainability.

In Figure 2 we have created a graphic synthesis of what it means for a university to take a position regarding sustainable development through its various fields such as: research, teaching, learning, knowledge transfer, organization, and governance, thus serving society and at the same time providing a good example of good practices regarding sustainable development.

Thus, we propose a model for implementing the objectives of the UN Agenda 2030, respectively, the Learning Compass 2030 issued by the OECD to achieve university management and sustainability as anchored to future requirements as possible.

Figure 2 Comprehensive model



Source: own projection

The role of management and, more so, of the leaders within an organization, is responsible for developing and supporting the organization in achieving visions and core values. In most organizations, there is an increasing emphasis on vision, mission, and strategy to remain competitive in the market and to cope with new innovative technologies (Nicotra et al., 2021). We must not forget that the mission of an organization represents its existence, and the vision is the state in which the organization is and its aspiration for the future, and the strategy has the role of managing and implementing the market requirements so as to reach the vision aspired by the organization (Cosenz, 2022). Like any company, organizations and universities aspire to develop a sustainable vision for their organization, and at the same time this can represent the first step towards a global alignment, respectively, it can represent the university's strategy towards a sustainable university. Through a good strategy, universities can create a vision of what is desired in the future in order to be competitive; respectively, the vision is particularly important for the implementation of the mission of becoming a sustainable university (Miller et al., 2021).

Universities, through their unique role, are in a unique position of influence and model for regions and countries. Therefore, the university is considered an agent of change in sustainable development by applying both internal and external change. The internal change of the university aims to ensure the quality of operations, and the external change aims at the influence the university has on its stakeholders through research, teaching, learning, and role in society (Gulden et al., 2020; Singh & Rahman, 2021; Khuong et al., 2021).

It is not news that universities play an important role in the development of economic systems based on the dissemination of knowledge and innovation, the promotion of a more efficient economy in terms of resources, greater compatibility with the environment and competitiveness to stimulate cultural growth and social cohesion and territorial (Abidi et al., 2021; Gjura & Dibra, 2022).

A sustainable management model is based on the principles of sustainability (sustainable development) and corporate responsibility and combines them with various management concepts (Camilleri, 2016). Sustainable management can thus be described as an entrepreneurial practice that applies sustainability concepts and therefore creates added value for companies, society, and the environment. Given the ongoing transformation of traditional management to sustainable management, a future orientation of management studies is essential, as today's students are tomorrow's decision makers (Gulden et al., 2020).

To this end, economics/business universities can transfer to students the necessary knowledge about sustainable management and promote the skills, personal motivation and experience to decide and act accordingly. It is important to recognize the prevailing thought patterns in teaching, revise them, and adapt them to the new reality. For these tasks, the following changes are necessary: curriculum reorientation; the reform of formal and informal learning frameworks, and the reorientation of learning and teaching methods (Xiaomin & Auld, 2020; Fischer et al., 2021).

Management approaches and perspectives of the past century initially celebrated great success in a time of supposedly unlimited resources. However, this changed at the last time as global conditions began to change massively. Limited resources, demographic changes, and not least the financial crisis have shown that profits cannot be made at the expense of third parties or the environment in the long term. Thus, this results in completely new challenges not only for companies, but also for universities. Today’s students, who will be tomorrow's managers, must place special emphasis on the social, environmental, and economic dimensions. Therefore, management leadership representatives are demanding that business models that have often been successful to date be adapted to current conditions, such as the corporate social responsibility in a sustainable management approach (Cheema & Javed, 2017). However, we must not forget that these needs for sustainable management have a real consequence for universities as well, which must rethink their own actions and review existing programs. They benefit from the support of the United Nations under the Principles for Responsible Management and the Sustainable Development Goals, which are respected by more and more universities. The associated new management paradigm also means that all individual

scientific disciplines include the subject of responsibility and sustainability in their specialist discourse (Gulden et al., 2020; Solikhah & Maulina, 2021).

Existing higher education strategies and educational discourses will be rethought and organized in this context, and if universities manage to address both entrepreneurial and social added value in their education, we will create a sustainable, future-ready educational paradigm (Kleimola & Leppisaari, 2022).

Universities that have already implemented sustainability aspects and fall into the category of advanced universities have already begun to promote the principles of sustainability within society, and more than that, must adapt to future requirements because they play a crucial role now and, in the future, as promotional agents. Through research, teaching, respectively, the values that the university creates and can create, respectively, transfers, and promotes, has an influence on society, respectively, shapes the society of tomorrow.

Not only can teaching and transfer of information and values contribute to sustainable development. In this process, university staff has an active role due to the social and ethical responsibility they have to produce, transfer, and disseminate knowledge both through research and teaching (Abad-Segura et al., 2019). Different methods of teaching, learning, and communication have an impact on the culture of the parties involved and their agents, which in turn have a long-term effect on the economy, society, and the environment (Srisathan et al., 2020).

Reflective and responsible decision-makers are central levers for change toward sustainable management in future-oriented companies. Therefore, we believe that it is essential to create the conditions and skills to make well-thought-out decisions and face complex challenges in universities. As central places of education, research, and innovation, universities are essential engines of social change.

Therefore, teachers play an important role, being caught more and more between freedom and responsibility due to their social responsibilities in society. It is not only important to protect the freedom of academic research and teaching, but also to assume responsibility for relevant content, which includes awareness of sustainability (Ashrafi et al., 2018). The newly developed range of regulations is intended to serve as a basis for developing the necessary advice and coaching options for university teaching staff to develop the skills to enable the future-oriented management of an increasingly complex university system. The aim of improving the quality of teaching in universities and promoting the development of teaching-learning processes is focused on university teaching staff (Veiga Ávila et al., 2019; Hernández-Diaz et al., 2021; Leal Filho et al., 2021).

The discussion of how the quality of teaching can be improved has already put considerable pressure on teachers to develop as a person and to seek a new position between attitude and teaching techniques. Education for sustainable development increases this pressure when it claims to develop the entire teaching-learning process into an equal communication process in which all involved learn how to shape the transformation of the economy and society (Iliško, 2021).

To date, university administrations seem to support the personal responsibility of teachers and offer voluntary courses to develop the teaching-learning process through university teaching centers. The university is responsible for ensuring that the transformation of universities towards a sustainable version is successful. Teaching staff as an interested party is one of the decisive pillars in this change. To take the change beyond the teaching staff in the university organization and, therefore, in the culture of learning, awareness should be created of the levels at which the process should be set in motion to achieve a long-term process and lasting effect. If the university takes responsibility for its professors as students, a transformation of the university system can take place, which can lead to a healthy, motivating, and leading tension in the field of the tension between specialist knowledge and guidance, as well as responsibility and social freedom (López et al., 2019).

In particular in teaching, we see the critical leverage to enable students to become thoughtful decision makers and multipliers for sustainability and responsible business. A critical, holistic view, and assessment of different options for action and their consequences are therefore essential to form the basis of responsible and sustainable decisions (Priyadarshini & Abhilash, 2020).

For engineering education at universities, the integration of digital content means, in particular:

the development of digital expertise through the obligation of digital teaching content to be able to face the complexity of future digital industries such as Industry 4.0, Industry 5.0

provide application-oriented digital skills

teachers to increase their digital skills.

Digitization will significantly shorten innovation cycles. Digital tools and new technologies are creating new fields of work, but they are also making the working world of engineers more complex and confusing. For this new complexity, students must learn flexibly and methodically during their studies. Therefore, it is important that students broaden their knowledge in an engineering discipline with a solid foundation in digital disciplines (Ossiannilsson, 2020).

The right mix of new and old course content is a major challenge for modern curricula in higher education and engineering, in particular (Lin & Zheng, 2021). In addition to basic and specialized knowledge, potential engineers must acquire additional skills. It is especially important to be able to independently acquire interdisciplinary content.

To prepare for the world of work of the future, engineering courses must become even more practical. Universities are increasingly reacting to this by establishing practice-oriented learning factories in cooperation with companies or by providing practical projects as a guide for engineering studies. The focus must be on enabling didactics and learning based on concrete practical problems.

Sustainability depends on independent, well-founded research that, on the one hand, expands the understanding of the causes, effects, and interdependencies of global phenomena such as climate change, and, on the other hand, develops innovative technologies and strategies for success (Hughson, 2022). The change towards a sustainable society is a transversal problem that affects various specialist fields. Therefore, it requires more interdisciplinary and transdisciplinary research that takes a holistic view, sets practice-oriented solutions and priorities, and supports transfer into practice. At the same time, we consider transparency in the financing of research projects and the promotion of young researchers to be important. The direct flow of knowledge from research to teaching is of added value to students and should be used accordingly.

For research, increasing the level of integration is a political objective debated at the European level because research through research offers new solutions and opportunities for existing and future challenges and requirements. The integration of practical aspects both at the level of disciplines and within research is becoming more and more essential, even important, to be able to address complex and topical issues in order to make their implementation more efficient. Unforgettable is also the aspect of sustainability in universities that is being researched by more and more researchers and research groups due to the social impact it can have on agents and society. By means of these researches on the development of university sustainability, one can move from disciplinary to interdisciplinary and even transdisciplinary research considering the applicability of sustainability in various fields, and being able to make its implementation more efficient requires a broader approach not only at the level of a discipline.

Sustainability within the educational system must be based on the principles and objectives of sustainability that must include the knowledge, skills, and abilities needed to face new challenges and train qualified personnel. In addition to issues of ethics, social responsibility, and other topical issues, we believe that education for sustainable development should be a priority both among researchers and among taught subjects, in order to prepare responsible citizens. Furthermore, to overcome the university barrier, cooperation with the business environment through partnerships can also contribute to education and sustainable development (Kleimola & Leppisaari, 2022). Thus, a basic priority in view of sustainable development for universities should represent the relationship with the community, i.e., with various actors involved in sustainable development.

Following the synthesis made by us, we believe that the successful implementation of sustainable development in universities represents a comprehensive approach and requires a holistic vision; thus, performance management has an important role in implementation (Gulden et al., 2020). Why performance management? because it can contribute to a mechanism for improving organizational performance through the objectives, performances, and results obtained both at the individual level and at the group level. Likewise, performance management through various factors can contribute to the objectives and strategic vision of the organization, respectively, contributing to the credibility and integrity of the management function. The literature indicates that performance management has three basic purposes:

1. strategic plan - which includes how the objectives must be linked
2. development goal - with emphasis on the individual
3. administrative purpose - which includes decision-making

The use of managerial performance is essential within universities and is increasingly present at all levels. By means of a high-performance management, it is possible to achieve strategies, the mission, and the future vision of a sustainable university in accordance with the new UN and OECD requirements.

CONCLUSION

The analysis of the specialized literature focused on the analysis of the link between the university and sustainability, respectively, the factors that influence the achievement of sustainable management within the universities. Universities have had a long history and still play an essential role in improving social, cultural, and economic aspects, as a promoter of development. The rapid changes of the last period and the digital revolution brought with it a series of changes at the level of businesses, companies, operations, and last but not least in society, thus universities have a vital role to reevaluate their mission, strategy, vision, role, and their responsibility in society. Thus, a first theoretical implication that emerges from our study concerns the role of universities in society and their influence on society. In addition, universities are required to demonstrate the application of the new market requirements to excel in the fundamental areas of performance and sustainable development.

Sustainable development is considered one of the biggest challenges in the 21st century for both society and universities. Given that this process of implementing sustainable development is a difficult one at the international level, there are already universities struggling with a strategy to implement the objectives of sustainable development. In Romania, we are still at the beginning of the road, probably also due to the COVID-19 pandemic, which forced universities to adapt from one day to the

next to virtual education. We also note that the implementation of sustainable development objectives is not a simple process and requires well-designed strategic management and at the same time significant efforts in terms of resources, time, and energy.

Our proposal for a comprehensive model of sustainable university development supports university management and universities. We consider our proposed model to be an essential complement to the empirical study and, at the same time we consider it to be our essential contribution. In this model we tried to include all the elements identified during the research, respectively, we tried to create this model as a best practice guide regarding the implementation of OECD and UN requirements regarding higher education. Considering the changes that are taking place at the international level, a model that schematically presents the future of education may be useful to many universities. We must not forget that such a process cannot be achieved overnight because it requires additional efforts, but the implementation of these objectives can be a promoter for companies and organizations considering the fact that universities educate the future leaders of corporations and their employees. In addition, the sustainable expansion of schools is becoming more and more imperative. Nevertheless, in peer group analysis, it was clear that the implementation of sustainable actions and ideas is just a start at several institutions, except for the pioneer universities.

Like any scientific effort, our research has several limitations which can be seen as opportunities for future research. Several limitations are acknowledged in this study. What implications can be derived from this research for future research? First of all, this document represents a first careful examination of the topic of sustainability developments based on the Agenda 2030 UN and the Learning Compass 2030 OECD. Therefore, the article should be understood as a starting point for future research. The development of a sustainable university must also be studied from a practical perspective after the implementation of the sustainability objectives, and why not from an empirical perspective. The purpose of further investigations is to perform a more detailed analysis of the different implications of the sustainability objectives on different levels like universities, organizations, companies etc.

REFERENCES

[1] Abad-Segura, E., Cortés-García, F. J., & Belmonte-Ureña, L. J. (2019). The sustainable approach to corporate social responsibility: A global analysis and future trends. Sustainability, 11(19), 5382.

[2] Abidi, O., Dzenopoljac, V., & Dzenopoljac, A. (2021). Discussing the role of entrepreneurial universities in COVID-19 era in the Middle East. Management: Journal of Sustainable Business and Management Solutions in Emerging Economies, 26(2), 55-66.

[3] Advantage, C. (2020). Corporate Social Responsibility. CSR and Socially Responsible Investing Strategies in Transitioning and Emerging Economies, 65.

[4] Albareda-Tiana, S., Vidal-Raméntol, S., & Fernández-Morilla, M. (2018). Implementing the sustainable development goals at University level. International Journal of Sustainability in Higher Education, 19(3), 473-497.

[5] Almagtome, A., Shaker, A., Al-Fatlawi, Q., & Bekheet, H. (2019). The integration between financial sustainability and accountability in higher education institutions: an exploratory case study. Integration, 8(2).

[6] Alshehhi, A., Nobanee, H., & Khare, N. (2018). The impact of sustainability practices on corporate financial performance: Literature trends and future research potential. Sustainability, 10(2), 494.

[7] Ashrafi, M., Adams, M., Walker, T. R., & Magnan, G. (2018). How corporate social responsibility can be integrated into corporate sustainability: A theoretical review of their relationships. International Journal of Sustainable Development & World Ecology, 25(8), 672-682.

[8] Barth, M. (2015), Implementing Sustainability in Higher Education: Learning in an Age of Transformation, Routledge Studies in Sustainable Development, Routledge, London.

[9] Bartolacci, F., Caputo, A., & Soverchia, M. (2020). Sustainability and financial performance of small and medium sized enterprises: A bibliometric and systematic literature review. Business Strategy and the Environment, 29(3), 1297-1309.

[10] Brudermann T, Aschemann R, Füllsack M, Posch A (2019), Education for sustainable development 4.0: lessons learned from the university of Graz, Austria. Sustainability. 11(8):2347. doi:10.3390/su11082347.

[11] Brundtland, G. H. (1987). Our common future, world commission on environment and development (WCED). Oxford University Press New York.

[12] Camilleri, M. A. (2016). Reconceiving corporate social responsibility for business and educational outcomes. Cogent Business & Management, 3(1), 1142044

[13] Caputo, A., Marzi, G., Pellegrini, M. M., & Rialti, R. (2018). Conflict management in family businesses: A bibliometric analysis and systematic literature review. International Journal of Conflict Management. https://doi.org/10.1108/IJCMA-02-2018-0027

[14] Castillo-Villar, R. G. (2020). Identifying determinants of CSR implementation on SDG 17 partnerships for the goals. Cogent Business & Management, 7(1), 1847989.

[15] Cheema, S., & Javed, F. (2017). The effects of corporate social responsibility toward green human resource management: The mediating role of sustainable environment. Cogent Business & Management, 4(1), 1310012.

[16] Collazo Expósito, L. M., & Granados Sánchez, J. (2020). Implementation of SDGs in university teaching: a course for professional development of teachers in education for sustainability for a transformative action. Sustainability, 12(19), 8267.

[17] Cosenz, F. (2022). Adopting a dynamic performance governance approach to frame interorganizational value generation processes into a university third mission setting. In Governance and performance management in Public Universities (pp. 87-108). Springer, Cham.

[18] Ding, Y., Rousseau, R., & Wolfram, D. (2014). Measuring scholarly impact. Zurich, Switzerland: Springer.

[19] Dmochowski, J. E., Garofalo, D., Fisher, S., Greene, A., & Gambogi, D. (2016). Integrating sustainability across the university curriculum. International Journal of Sustainability in Higher Education.

[20] Drempetic, S., Klein, C., & Zwergel, B. (2020). The influence of firm size on the ESG score: Corporate sustainability ratings under review. Journal of Business Ethics, 167(2), 333-360

[21] Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. Business strategy and the environment, 11(2), 130-141.

[22] El-Jardali, F., Ataya, N., & Fadlallah, R. (2018). Changing roles of universities in the era of SDGs: rising up to the global challenge through institutionalising partnerships with governments and communities. Health research policy and systems, 16(1), 1-5.

[23] Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. Environmental quality management, 8(1), 37-51.

[24] European Commission. (2018). A sustainable Bioeconomy for Europe: strengthening the connection between economy, society and the environment. Brussels, Belgium.

[25] European Commission-EU (2020) Coronavirus research and innovation. Available at https ://ec.europ a.eu/info/resea rch-and-innovation /resea rch-area/healt h-resea rch-and-innov ation /coron avirus-resea rch-and-innov ation en.

[26] Filho, W. L., Shiel, C., & Paço, A. D. (2015). Integrative approaches to environmental sustainability at universities: an overview of challenges and priorities. Journal of Integrative Environmental Sciences, 12(1), 1-14.

[27] Fischer, B., Guerrero, M., Guimón, J. and Schaeffer, P.R. (2021),Knowledge transfer for frugal innovation: where do entrepreneurial universities stand?, Journal of Knowledge Management, Vol. 25 No. 2, pp. 360-379

[28] Gjura, A., & Dibra, M. (2022, April). THE ROLE AND IMPORTANCE OF UNIVERSITIES IN THE DEVELOPMENT OF STUDENTS'SOCIAL RESPONSIBILITY. In SOCIETY. TECHNOLOGY. SOLUTIONS. Proceedings of the International Scientific Conference (Vol. 2, pp. 23-23).

[29] Gray, P. S., Williamson, J. B., Karp, D. A., & Dalphin, J. R. (2007). The research imagination: An introduction to qualitative and quantitative methods. Cambridge University Press.

[30] Gulden, M., Saltanat, K., Raigul, D., Dauren, T., & Assel, A. (2020). Quality management of higher education: Innovation approach from perspectives of institutionalism. An exploratory literature review. Cogent Business & Management, 7(1), 1749217.

[31] Hermundsdottir, F., & Aspelund, A. (2021). Sustainability innovations and firm competitiveness: A review. Journal of Cleaner Production, 280, 124715.

[32] Hernández-Diaz, P. M., Polanco, J. A., Escobar-Sierra, M., & Leal Filho, W. (2021). Holistic integration of sustainability at universities: Evidences from Colombia. Journal of Cleaner Production, 305, 127145.

[33] Hughson, T. A. (2022). The OECD and epistemic (de) colonisation: Globalising visions for knowledge in the Learning Compass 2030. Compare: A Journal of Comparative and International Education, 1-17.

[34] Hughson, T. A., & Wood, B. E. (2022). The OECD Learning Compass 2030 and the future of disciplinary learning: a Bernsteinian critique. Journal of Education Policy, 37(4), 634-654.

[35] Iliško, D. (2021). Interplay of Traditions and Innovations in Teaching Sustainability Issues: National and Global Discourses. In Innovations and Traditions for Sustainable Development (pp. 161-176). Springer, Cham.

[36] Kaplani, G., & Zafiropoulos, K. (2022). A model of quality assurance in primary education management. The case of Greece. Cogent Business & Management, 9(1), 2016555.

[37] Khuong, M. N., Truong An, N. K., & Thanh Hang, T. T. (2021). Stakeholders and Corporate Social Responsibility (CSR) programme as key sustainable development strategies to promote corporate reputation—evidence from vietnam. Cogent Business & Management, 8(1), 1917333.

[38] Kleimola, R., & Leppisaari, I. (2022). Learning analytics to develop future competences in higher education: a case study. International Journal of Educational Technology in Higher Education, 19(1), 1-25.

[39] Landrum, N. E., & Ohsowski, B. (2018). Identifying worldviews on corporate sustainability: A content analysis of corporate sustainability reports. Business Strategy and the Environment, 27(1), 128-151.

[40] Leal Filho, W., Levesque, V.R., Salvia, A.L. et al.(2021) University teaching staff and sustainable development: an assessment of competences. Sustain Sci 16, 101–116

[41] Leal Filho, W., Pallant, E., Enete, A., Richter, B., & Brandli, L. L. (2018). Planning and implementing sustainability in higher education institutions: an overview of the difficulties and potentials. International journal of sustainable development & world ecology, 25(8), 713-721.

[42] Lin, M., & Zheng, Y. (2021). Unpacking the Global-Local Entanglements in Hong Kong's Curriculum Reform. In Euro-Asian Encounters on 21st-Century Competency-Based Curriculum Reforms (pp. 175-194). Springer, Singapore

[43] López, I. L., Bote, M., Rives, L. M., & Bañón, A. R. (2019). Higher education institutions as a transformation platform under the sustainable development goals framework. European Journal of Sustainable Development, 8(3), 306-306.

[44] Mascarenhas, C., Ferreira, J. J., & Marques, C. (2018). University–industry cooperation: A systematic literature review and research agenda. Science and Public Policy, 45(5), 708-718.

[45] Miller, K., Cunningham, J., & Lehmann, E. (2021). Extending the university mission and business model: Influences and implications. Studies in Higher Education, 46(5), 915-925.

[46] Mori Junior, R., Fien, J., & Horne, R. (2019). Implementing the UN SDGs in universities: challenges, opportunities, and lessons learned. Sustainability: The Journal of Record, 12(2), 129-133.

[47] Nicotra, M., Del Giudice, M., & Romano, M. (2021). Fulfilling University third mission: towards an ecosystemic strategy of entrepreneurship education. Studies in Higher Education, 46(5), 1000-1010.

[48] OECD (2020), OECD Learning Compass 2030 https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/

[49] Ossiannilsson, E. (2020). Reflection on 21st century competences, smart learning environments, and digitalization in education. Near East University Online Journal of Education, 3(2), 87-93.

[50] Pham, D. C., Do, T. N. A., Doan, T. N., Nguyen, T. X. H., & Pham, T. K. Y. (2021). The impact of sustainability practices on financial performance: empirical evidence from Sweden. Cogent Business & Management, 8(1), 1912526.

[51] Porter, M., & Kramer, M. (2006). Estrategia y sociedad. Harvard business review, 84(12), 42-56.

[52] Priyadarshini, P., & Abhilash, P. C. (2020). From piecemeal to holistic: Introducing sustainability science in Indian Universities to attain UN-Sustainable Development Goals. Journal of Cleaner Production, 247, 119133.

[53] Rahayu, D. N., & Setiyani, L. (2022). Systematic Literature Review: Delone and Mclean Model using VOSViewer on Google Scholar Database Case Year 2010-2020. International Journal of Science, Technology & Management, 3(1), 22-30.

[54] Rameez, A., Fowsar, M. A. M., & Lumna, N. (2020). Impact of COVID-19 on higher education sectors in Sri Lanka: A study based on South Eastern University of Sri Lanka.

[55] Ridder, H. G. (2014). Book Review: Qualitative data analysis. A methods sourcebook (Vol. 28, No. 4, pp. 485-487). Sage UK: London, England: Sage publications.

[56] Sherstobitova, A. A., Iskoskov, M. O., Kaziev, V. M., Selivanova, M. A., & Korneeva, E. N. (2020). University financial sustainability assessment models. In Smart Education and e-Learning 2020 (pp. 467-477). Springer, Singapore.

[57] Singh, A. P., & Rahman, Z. (2021). Integrating corporate sustainability and sustainable development goals: towards a multi-stakeholder framework. Cogent Business & Management, 8(1), 1985686.

[58] Smigic, N., Lazarov, T., & Djekic, I. (2020). Does the university curriculum impact the level of students' food safety knowledge?. British Food Journal.

[59] Solikhah, B., & Maulina, U. (2021). Factors influencing environment disclosure quality and the moderating role of corporate governance. Cogent Business & Management, 8(1), 1876543.

[60] Srisathan, W. A., Ketkaew, C., & Naruetharadhol, P. (2020). The intervention of organizational sustainability in the effect of organizational culture on open innovation performance: A case of thai and chinese SMEs. Cogent business & management, 7(1), 1717408.

[61] Tasdemir, C., & Gazo, R. (2020). Integrating sustainability into higher education curriculum through a transdisciplinary perspective. Journal of Cleaner Production, 265, 121759.

[62] UN, The Global Challenge for Government Transparency: The Sustainable Development Goals (SDG) 2030 Agenda, https://worldtop20.org/global-movement?gclid=EAIaIQobChMIy-bSzqbv-QIVj49oCR11PwdHEAAYAiAAEgKzffD_BwE

[63] Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics, 84(2), 523–538.

[64] Van Eck, N. J., & Waltman, L. (2018). Analyzing the activities of visitors of the Leiden Ranking website. arXiv preprint arXiv:1804.03869.

[65] Veiga Ávila, L., Beuron, T.A., Brandli, L.L., Damke, L.I., Pereira, R.S. and Klein, L.L. (2019), Barriers to innovation and sustainability in universities: an international comparison, International Journal of Sustainability in Higher Education, Vol. 20 No. 5, pp. 805-821.

[66] Wiek, A., Talwar, S., O'Shea, M., & Robinson, J. (2014). Toward a methodological scheme for capturing societal effects of participatory sustainability research. Research Evaluation, 23(2), 117-132.

[67] Xiaomin, L., & Auld, E. (2020). A historical perspective on the OECD's 'humanitarian turn': PISA for Development and the Learning Framework 2030. Comparative Education, 56(4), 503-521.