A THEORETICAL APPROACH ON THE SUSTAINABLE DEVELOPMENT STRATEGY FOR HIGHER EDUCATION

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Abstract: *As institutions of education, research, and services, universities are key players in the sustainable development of society and the economy. This requires an analysis of the institutional anchoring of sustainable development and how universities meet these expectations, i.e., in what aspects relevant to sustainability a university acts in a future-oriented manner and where optimization is needed. At sustainability same time, the analysis allows universities to position their sustainability efforts in comparison with other players in the university field. This research presents a qualitative study on the implications of digitalization and the 2030 strategy. A foray into the literature is made to lay the groundwork for further quantitative research. As the results of the research show, we are still at the beginning of the road, but it is impossible to achieve a sustainable strategy in higher education.*

Keywords: *sustainability, university, OECD, SDG, e-learning*

JEL classification: M20, I20

Introduction

As a social actor, universities and other institutions are called upon to discuss processes and structures and, if necessary, adapt them to changing requirements. At the same time, there must be a comprehensive change in consumption and production methods by changing lifestyles. Universities play a central role in this, as future decision makers and multipliers are formed there.

Universities therefore have an important position in relation to social change and make a decisive contribution to sustainable macroeconomic development. Due to this ethical and socio-political responsibility of universities, they have a responsibility to give impetus to a social transformation towards a sustainable environment. By integrating sustainability into the fields, universities are helping to make society more sustainable and to promote the transition to a sustainable society.

A university can implement the aspect of 'sustainability' and sustainable management in its institution in different ways, the basic result being the contribution to the fulfillment of the action plan 'Education for sustainable development" and to the implementation in practice of the SDGs. Therefore, many of the SDGs can be recognized in the functioning of a university (UNICEF and Sustainable Development Goals, Education for Sustainable Development Goals - Learning Goals - Global Education Agenda 2030).

Learning objectives to achieve the SDGs

The sustainability efforts of universities are significantly influenced by the level of political and strategic control at the international and national level, which provides them with both a target framework and specifications. Based on the UN target framework, the Romanian government has

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adopted a strategy and an action plan to promote sustainable development. At the 2030 Agenda of the international level, the United Nations with the 17 Sustainable Development Goals (SDGs) is authoritative. Universities can make an important contribution to each of the 17 objectives, especially through research and teaching. Education is on the one hand an objective (SDG 4, access to quality education), but also a measure to support the other objectives, through education for sustainable development (EDD). This goal applies to all levels of education and therefore to universities. According to SDG 4.7: "By 2030, ensure that all students acquire the knowledge and skills needed to promote sustainable development, including through education for sustainable development and lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and cultural appreciation, diversity and the contribution of culture to sustainable development "(UNICEF and Sustainable Development Goals - Education for Sustainable Development Goals -Learning Objectives -Global Education Agenda 2030).

The Sustainable Development Goals (SDGs) are derived from the 2030 Agenda as part of the 2015 UN Sustainable Development Summit. The 17 Sustainable Development Goals defined here are intended to be international, a total of 169 subtleties leave different countries a certain margin to define them individually for themselves. The SDGs are based on the eight Millennium Development Goals of 2001 and address the five main aspects of society, the environment, prosperity, peace, and partnerships. Integrated into the three dimensions of sustainability of the economy, ecology, and society, the goals for sustainable development create a balance between dimensions. (fig. no. 1) shows the 17 objectives in the three dimensions.

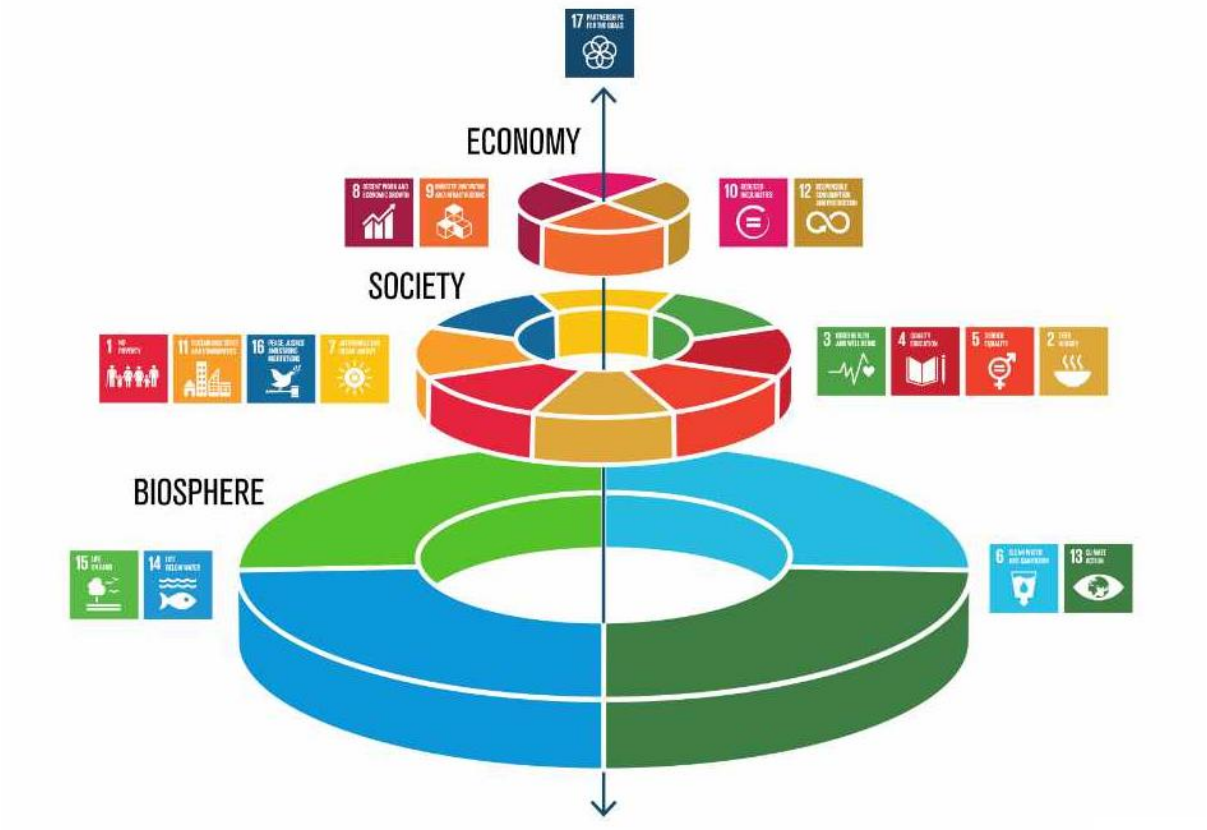

Fig. no. 1 17 SDG

Source: Rockström, J./Sukhdev, P. (2016): Stockholm Resilience Center: How the SDGs connect to food https://www.stockholmresilience.org/research/research-news/2016-06-14-the-sdgs-wedding-cake.html

The four SDGs "Clean Water and Sanitation" (SDG 6), "Climate Action" (SDG 13), "Underwater Life" (SDG 14), and "Terrestrial Life" (SDG 15) are allocated to the ecological dimension. The size of the company is assigned to eight SDGs, which suggests an alleged focus. However, many SDGs cannot be clearly attributed to one of the dimensions. For example, "accessible and clean energy" (classified here as a social objective) could also be attributed to the environmental and economic dimension. The economic dimensions are SDG "Decent Work and Growth" (SDG 8), "Industry, Innovation, and Infrastructure" (SDG 9), "Reduced Inequality" (SDG 10) and "Responsible Consumption and Production" (SDG 12). Here, too, the attribution, especially of the SDGs, to less inequality can be discussed (UNICEF and the Sustainable Development Goals - Education for Sustainable Development Goals - Learning Goals - Global Education Agenda 2030).

The fact that some SDGs cannot be clearly divided into one of three dimensions of sustainability is due to the fact that their subobjectives address several dimensions and, depending on how the objective or subobjective is interpreted, the focus may be on different sizes. The SDG "Partnerships for Achieving Goals" (17), which describes the methodology for achieving the goals, is subordinated to the three dimensions of sustainability (UNICEF and Sustainable Development Goals - Education for Sustainable Development Goals - Learning Goals - Global Education Agenda 2030).

Fig. no. 2 Sustainable Development Goals
Source: https://www.un.org/sustainabledevelopment/sustainable-development-goals/

OECD Framework for the Future of Education and Skills 2030

The learning framework mentions the development of independent design and action competence among students as a general objective. The metaphor of a learning framework, developed in the OECD project "The future of education and skills 2030", is the basic assumption that students can learn to navigate independently through unknown terrain. To this end, the learning framework develops a learning scenario as it should be organized in 2030 to align education with the 17 Sustainable Development Goals (SDGs) and, at the same time, to “eliminate” overcrowded learning plans.

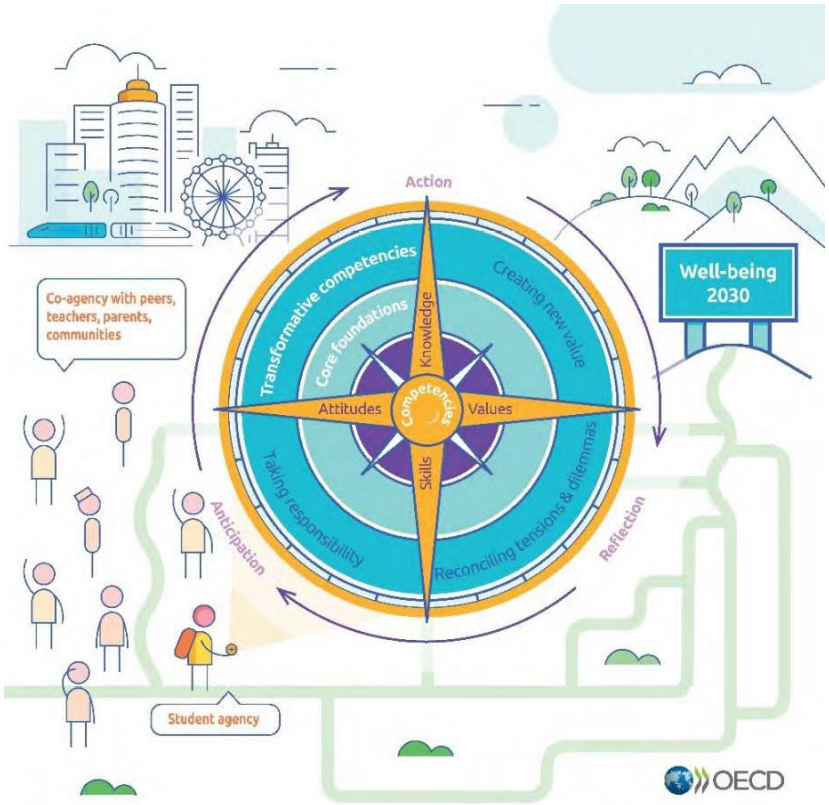

Fig. no. 3 OECD Learning Compass 2030
Source: https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/

However, in order to acquire this "Student Agency", ie action and design skills, children and young people need guidance, a learning framework, from those in charge of education. This allows them to learn to set their own goals, to act responsibly, to reflect on their own actions, and to make the necessary changes. The "student agency" is closely linked to the development of one's own identity and sense of belonging. At the same time, co-agency appears in social contexts. It develops in an interactive way with colleagues, teachers, parents, and communities, almost organically in a more comprehensive learning ecosystem.

To master the challenges of the 21st century, children and adolescents need to feel comfortable and conviction to act independently of performance appraisals. They must believe that they can contribute to shaping a world in which well-being and sustainability are achievable for themselves, others, and for the entire planet. Only in this way can they develop their "transformation skills" and use their talents to successfully contribute to the development of a good future. In the 'new normality' of schools propagated in the learning environment, stable value systems are built, stresses and stressful dilemmas are reduced, and responsibility for oneself and the community is assumed. The necessary empathic and responsible action can be developed through mindfulness, which is integrated into the new school system. As a basis for the development of diverse potentials and talents in all learners, the basic foundations, knowledge, attitudes, and values for further learning in all curricular areas should be acquired.

Many will find it reassuring that the learning framework also mentions basic skills such as reading, writing, and arithmetic, digital and data-based literacy, and health as a basis for learning. Knowledge means reliable facts, terms, concepts, ideas, and theories for understanding the world.

This includes both theoretical concepts and approaches, as well as a practical understanding of the management of concrete tasks. Disciplinary or discipline-specific knowledge is cited as an essential basis for understanding how learners can build other types of knowledge. Interdisciplinary knowledge and epistemic knowledge help to understand the purpose and application of what has been learned and to expand disciplinary knowledge.

In general, future learning is no longer about accumulating data, but rather about procedural knowledge. This helps children and young people solve complex, real problems, including in the digital area. In the new reality of learning, digital skills will evolve in line with technological advances. In addition to cognitive and metacognitive skills, including critical and creative thinking, the learning framework also describes the social and emotional skills as potential and individual bases that children and young people need to become independent, responsible, and responsible citizens of the 21st century. to develop.

Personal, social, societal, and human values and attitudes influence the transfer of knowledge and skills and develop independently of each other. They are the motivation to acquire and use everything that creates "well-being", a responsible personality, and a good civil society. The learning framework describes these values as the upholding of social and human values that promote social capital and social welfare and are necessary for moral agency.

The so-called cycle of anticipation, action, and reflection is called an effective process for the new reality of learning. In this way, thinking can be continuously improved, learned in a more targeted and responsive way. In short, in the first phase, students anticipate how their actions today may affect the future. In the action phase, they develop their will and ability to direct their actions towards general well-being. The reflection phase causes students to support their personal well-being and the well-being of society and the environment in a meaningful way.

How can universities benefit from the learning environment?

Universities can use the learning environment as an effective engine for the development of the university and lessons / courses. On the road to an ambitious, correct future, and in addressing the associated questions, the learning framework generates a motivating vision of future-oriented education. He convinces with examples, methods, goals, and a value system that can withstand the daily crises and social change needed. If we assume that the development of education as a classic triad of organizational, teaching, and staff development can effectively raise human potential and make good use of material and digital resources, the learning framework provides the necessary guidance in all three areas. Many universities try to define this vision, laborious and long, using the classic processes of conceptual development, the result of which is often just a paper tiger. Because models that do not refer to the central point of reference - children's learning - also have a small impact on its redesign, the redesign of learning.

Schools that use the learning cart as a guide are committed to focusing on learning processes, making the most significant use of the potential and resources of all those involved in school life for the well-being of all and the future of our planet. In a co-creative process, a stable ‘we’ and clarity about “for whom” and ‘for what’ can emerge and lead to a different, deeper learning (“deeper learning”).

The learning environment is trying to answer the biggest question of all: In what world do we want to live in and what do we need to do to enable children and young people to shape it? In response to these questions, the United Nations adopted the so-called SDGs (Sustainable Development Goals) in 2015. Behind these 17 Sustainable Development Goals are very ambitious and urgently needed measures to protect our planet permanently and make our world a better place. And the learning environment would like to help children and young people achieve these goals. Because our rapidly changing world faces major ongoing challenges: technological revolutions, climate change, loss of plant and animal species, national and international conflicts, forced migration and refugee movements, intolerance and hatred, and so on. Inequalities increase and affect them for

decades to come. The COVID-19 pandemic has further exacerbated these inequalities and exposed the fragility of our (global) societies. More than ever, we have a shared responsibility to support the most disadvantaged people and at the same time to protect and maintain the natural foundations of life for present and future generations. It has never been so important to make education a universal right and a reality for everyone.

Such innovations require courageous schools, creative teachers, and an open mind to constructively seize opportunities for change and to develop, try, critically evaluate, and implement new forms of learning with children, young people, and adults. As described in the learning cart.

Digitization in the university environment

Even though the constant use of the Internet, "always on", is one of the minimum standards for students, the Internet is neither the primary means of communication for teaching nor for research, nor is it established as a leading platform in the canon of teaching methods. In any case, commercial corporations have long taken over the further evolution of the Internet and associated digital technologies from universities. So it is time for a vision of the digital university. This vision shows what great progress the Internet can make in science and teaching. It is about access to the results of research on the Internet, about the collaboration of scientists online and about the use of digital technologies in the transfer of knowledge, i.e. teaching. Much has already happened in these areas, but there is a real need to catch up in other areas. It is nothing less than increasing the degree of freedom in research and teaching through digitization (Lin & Chen, 2017; Händel et al., 2020). This can only be achieved if universities actively contribute to digitization modeling. Otherwise, setting the course for the further development of the Internet will be done exclusively by actors outside the university, such as politics and business.

As business and social structures and processes undergo major changes, this also applies to science and universities, which are increasingly open to the potential of digitization. Digitization has now reached all areas of work in universities and penetrates the fields of research and teaching, as well as their administrative processes. Digitization in universities is associated with various potentials and expectations, but at the same time with uncertainties and fears. Automated analysis of large amounts of research data supports the systematic search for new perspectives in basic and applied research. Digitized learning formats, such as inverted classrooms or game-based learning, should contribute to the sustainability of learning processes and to the individualization of teaching. Digital mapping of administrative processes simplifies the exchange of files, processes, and documents can be a basis for greater transparency in administrative activities. In short, digitization should enable universities to conduct research, teaching, and administration at a higher quality and more professional level (Sousa & Rocha, 2019; Händel et al., 2020).

In fact, a variety of visions, strategies, and implementation concepts for the ‘digital university’ have been and are being developed and lived in universities. However, the respective strategic and organizational anchoring in the overall concept of universities differs significantly, and the degrees of implementation desired or already achieved in different fields differ significantly from each other. The special structural needs, challenges, and implementation potential are very different for different areas of the university (Schmid & Bässler, 2016).

As a cross-cutting issue, digitization is becoming more widespread in all areas of the university, offering new opportunities in teaching, research, and communication, but at the same time presenting new challenges to teachers and students. Universities aim to make the most of the possibilities of this dynamic process. In this way, digitization can help make teaching and learning more flexible and thus better take into account the individual needs of students. The practical relevance of teaching can be promoted through visualization and virtualization techniques. In the context of research cooperation or the internationalization of studies and teaching (internationalization at home), digital formats and tools offer new options (Anderson, 2020).

As it has not yet been possible to systematically exploit the synergistic potential of digitalisation in view of the different organizational conditions and logic of action in the fields of work of universities, it has not been possible to establish a uniform level of information on digitization of universities. We know that the university of the future will look different. It is not clear what exactly it will look like. According to Ehlers (2018), the key factors of the future university are greater participation in education, increasing diversity in life situations, digitalization, and student needs. While Ehlers (2018) sees the strongest factors, on the one hand, in the growing importance of education in society and, on the other hand, in digitization, another equally important factor is the needs of students as part of digitization project. The reason for this is the assumption that students' needs will be a significant part of shaping their profile (Schmid & Bässler, 2016).

The development of the digital university is a demanding and complex task. It is too narrow a view if digitization is seen only in a standardized, mass-produced mechanization of teaching and learning processes and also does not include aspects of permeability, personalization, effectiveness, lifelong learning, labor market requirements, educational partnerships, and innovation (Al-Ani, 2016; Anderson, 2020).

However, this could mean that the Internet could lose its unique freedom character, which its emergence as a university and research project has helped to achieve. This development of a vision for the digital university is coming late, but not too late. At the same time, the time delay has the advantage that digitalization has already reached a remarkable degree of maturity in many sectors. In this way, viable digital process and product structures have emerged in many sectors and best practices are available. Sectors such as e-commerce, on-line marketing, social media, or cloud computing are functional and technologically and fundamentally powerful. They offer a variety of solutions that can be transferred to other sectors for digitization, including universities. This must be tried in this contribution by using the factors as central elements of the vision: digital innovation, economies of scale, and student centricity, must be transferred to the digitization of universities.

These are key factors in digitization that have proven to be key success factors in a comparable form in already digitized sectors, such as commerce or the media (Al-Abdullatif & Gameil, 2020). Digital innovations are the real access to digitization, because digitization will not take place without the increased use of software for process mapping and optimization. On the other hand, are a consequence of the increased use of software. It has high fixed costs but very low average costs. If the use of software increases, the average costs decrease, and there is a clear economic advantage. Finally, the ‘student-centric’ factor is the application of the well-known client-centered strategy (Fader, 2020). This benefits from greater transparency and improved communication and interaction options on digital platforms.

The Implications of E-Learning in the sustainable educational process

A general definition of the term is very difficult to give because e-learning has many facets, and those definitions vary depending on the focus concept. According to Ehlers (2020), e-learning or e-learning includes all forms of learning in which electronic or digital media are used for the presentation and distribution of learning materials and / or support for interpersonal communication. It is characteristic that e-learning includes the teaching and learning processes of people related to information and communication technologies (Bourina & Dunaeva, 2019). Therefore, teaching and learning are computer-assisted. Synonyms for online education, telelearning, multimedia learning, computer-based training, distance learning, or computer-assisted learning are often used for e-learning (Zhang et al., 2020).

Fischer (2018) gives an initial answer to this: The concept of e-learning has been the subject of heated debate in the education sector for many years [...] The conceptual basis of the discussion is often unclear. On closer inspection, however, it becomes clear that a fundamental thing that all definitions of the term e-learning have in common: the fusion of educational processes with digital technologies.

The digital transformation has long reached universities. This opens new teaching possibilities: on-line formats make possible individual support, cultural exchange, and virtual mobility, independent of space and time. This is what international students benefit from.

E-learning technologies are complex in many ways. They require human and financial commitment. Above all, the structures of the university organization must be adapted for successful use. If investments in e-learning technologies are not made or are made only slowly, this can be attributed to a lack of resources.

However, officials are threatening to make a mistake that has already been made in other sectors. Wherever user behavior that has changed because of digitization has not been addressed, there is a change to the detriment of nondigital offerings. Just as retail or print media are affected by a loss of customers, universities may also be affected by the "digital waiver". This can happen when actors outside the higher education sector develop offerings that, thanks to innovative learning technologies and digital content, meet the needs of internet-savvy students and those who want to learn much better than many traditional universities. Then there may be intensified competition between "pure players" and "multi-channel universities".

A key perspective on digital transformation should dictate the new focus: the new power of customers. This is due to the significantly increased transparency. Educational offerings are becoming even more comparable due to the online presence of universities, and the education market is becoming more and more transparent. Students evaluate their online university and exchange ideas about their universities on social media (Valverde-Berrocoso et al., 2020).

The solution to increasing competition is to focus on students. This term, borrowed from the concept of customer focus (Valverde-Berrocoso et al., 2020), aims to place the educational career of the individual student at the center of academic teaching.

Digital innovations are useful in providing new access to education and knowledge processes. Processes and learning outcomes that take place on digital platforms can be saved, analyzed, and used to support students. Above all, students themselves should have permanent access to their learning progress and results. An important basis for accepting platform-supported support for students and their learning and development processes is the necessary trust and data protection (Zhang et al., 2020). However, the independence of the university as an institution is an important prerequisite for trust. The expectation of students is, even in the case of a digitized university, rightly so, so that the university is primarily engaged in the development of students' skills, in the acquisition of scientific knowledge, and not of external actors.

If this trust is guaranteed, a digital platform can intensify the exchange between teachers and students, add new interaction formats, and make them more effective. The result should be a better quality of care than is possible in a mass university. Routine processes, such as the transmission of information or standard evaluations of test results, should be performed using digital solutions so that there is more time for personalized support in personal discussions. As such conversations can take place anywhere in the context of digitization, this should make it more flexible. Teachers can set digital consultation hours that make sense for individual and group discussions. Focusing students is complex and, above all, requires a change of culture towards a digital university. This can only be motivated by attractive goals that can be achieved by focusing on students. It is essential that the benefits are seen by students, faculty, and the university administration.

Stricter control of learning processes does not refer to the restriction of freedom and degrees of freedom of students and teachers, but to the creation of additional degrees of freedom. This is done by replacing routine processes, repetitive processes and purely administrative activities with automation to a greater extent. In addition, student focus can be understood and implemented in such a way that study courses are more transparent in order to better and more individually support students. The digital university can and should use this need to provide individual support to students. It is important that students are motivated to interact with the platform. This creates communication options and the ability to access other digital offerings on the platform (Akindele et al., 2021).

Anonymous landmarks that help students evaluate their own performance in the context of other students' performance may be helpful. Additionally, additional resources can be provided for learning and reading.

Another integral element of the focus of the student is the assessment opportunities offered on the digital platform. Student centricity should provide students with the opportunity to provide ongoing feedback, including on individual courses. Continuous feedback leads to significantly greater transparency. This transparency can and should be used to adapt teaching and teaching concepts to the needs of students and ultimately to increase quality.

Conclusions

In short, sustainable development in universities is becoming increasingly important. However, in peer review, it has become clear that the implementation of sustainable measures and concepts is only in its infancy in many institutions, with the exception of pioneer universities.
The detailed analysis of your company, stakeholders, and comparison group is an important first step in formulating goals for your university and towards the goal of a comprehensive sustainability strategy.

E-learning as a new learning concept seems very tempting at first glance: it opens up the possibility of learning and continuing education according to individual needs when and where we want. The computer and the Internet connected to it are now an indispensable part of our lives, and therefore a combination of learning and electronic media is a good idea.

As technology advances at a rapid pace, further progress will be made in the field of e-learning, but it is important to remember that e-learning also has limitations. On the one hand, an e-learning environment according to its didactic concept and certainly not only according to its technical feasibility, which depends on the creators of the respective programs. In addition, the learner is usually still the same person as in classical learning methods. Where there is a lack of motivation, interest, or desire to make an effort, e-learning will not be able to work wonders. Additionally, the constant flexibility and availability of learning programs tempt people to put in additional learning effort and possibly overwhelm them.

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