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# ALTERNATIVES TO INTEGRATING SUSTAINABILITY INTO HIGHER EDUCATION CURRICULA

***Daiva Beržinskienė - Juozainienė[a], Dalia Susnienė[b], Gediminas Sargūnas[b]***

*[a] Kolping University of Applied Sciences, Lithuania*
*[b] Panevėžio kolegija / University of Applied Sciences, Lithuania*

**Abstract.** The world community is constantly facing a number of economic, social and environmental challenges that are intensifying due to climate change and globalization. Alarming statistics on climate change, depleting natural resources, social exclusion and poverty clearly show that the current model of societal development requires fundamental change, and that higher education is expected to play an important role in many countries in creating a more sustainable future and empowering society, the knowledge, skills, and values of graduates to enable the whole of society to move towards a more sustainable way of life. Still, the main challenge for higher education is to realize the most effective alternatives for integrating sustainability into higher education curricula.

This article analyses the need and importance of integrating sustainability into higher education curricula and presents alternatives to integrating sustainability into board and business / economics studies. The matrix (alternatives) of possibilities for integrating sustainability into business and management / economics study programs presented in the article are the main ways of integrating sustainability into study programs, but it is not necessary to limit them. Teaching methods that include guest lecturers, practitioners, or student-client group projects that help integrate sustainability into management and business / economics studies can be applied to all alternatives. This matrix of choices can be applied in various ways, its flexibility allows you to choose one or more alternatives, to combine them with each other. It can be applied in all three areas of sustainability (economy, society, environment), not just in the environment. It also allows to determine the importance of the integration of sustainability in higher education, allows to develop discussions on the topic of the need for sustainability, to determine its significance.

***Keywords:*** higher education, sustainability, integration, study programs.

## INTRODUCTION

In recent years the planet's state of health and its future well-being have become the focus of much increased public attention and concern and in many countries higher education is now expected to play a significant role in helping society towards a more sustainable future through providing large numbers of graduates with the knowledge, skills and values that will enable the society as a whole to progress towards more sustainable ways of living. However, a key challenge for higher education is to discover the most effective ways for producing „sustainability literate" graduates (Chalkley, 2006). Higher education for sustainable development (HESD) is one of the most important tools for raising awareness about environmental issues within a sustainable development context. However, there are still many problems associated with its execution (Filho, 2015).

The concept of sustainable development (SD) was raised as the response to the enormous and very harmful effects of the change in the civilization direction (Czapla, Berlinska 2011).

Over the last few years, a number of studies have been published discussing how to integrate sustainability into higher education, specifically into business and management / economics curricula (cf. Lidgren et al., (2006); Lozano, (2006); Rands, (2009); Roome, (2005); Rusinko, (2010); Rusinko & Sama, (2009); Sammalisto & Lindhqvist, (2008); Scott & Gough, (2006); Starik, (2006); Benn & Dunphy, (2009); Porter & Cordoba, (2009); Rands, (2009); Roome, (2005); Walker et al., (2009)).

According to UNESCO, education for sustainable development "empowers people to change the way they think and work towards a sustainable future". It therefore involves making access to good-quality education available at every stage of life.

In the current era, we face huge global problems (for example, the refugee crisis, global climate change, extreme poverty, and illiteracy) and, presumably, these problems are best addressed through universal education and international cooperation.

Therefore, it becomes an important scientific issue how to justify the benefits of integrating sustainability into higher education curricula.

 

The aim of this research is to analyse and substantiate the need and importance of the integration of sustainability into higher education study programs. The aim is detailed by tasks:

1. To substantiate the preconditions that promote the integration of sustainability into higher education study programs.

2. Provide alternatives for integrating sustainability into management and business / economics studies.

Working methods: analysis of scientific literature, systematization.

## PREREQUISITES FOR SUSTAINABILITY INTEGRATION

Sustainable development can be defined as a philosophy of development based on systemic thinking, based on the fundamental laws of nature, which man should not violate in order to ensure the sustainability of the system and human continuity on this planet, while ensuring social justice and economic prosperity.

Higher education not only has a role to play in that effort, but it also has the capacity to play a leading role. With a target date of 2030, the UN, through their SDG initiative, has set 17 broad and interdependent goals that are necessary for creating a sustainable future on our planet. The SDG initiative is a concerted universal agenda by the 193 member states of the UN and the global civil society, and it represents a strategic framework and a bold normative vision of the future.

As a knowledge producer, the core mission of higher education cuts across all learning domains. Thus, higher education has a unique role to play in helping to achieve the SDGs. More specifically, Goal Four deals directly with education – its goal is to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". More specifically, it includes educating students about the need for sustainable development by integrating sustainable development issues into all aspects of teaching, research and services.

These perspectives on the aims and importance of education for sustainable development apply not only to primary and secondary education, but also to tertiary education. Indeed, tertiary education makes several unique contributions that differentiate its role in education for sustainable development from that of K-12 education. First, higher education institutions are responsible for preparing primary and secondary school teachers with the knowledge, skills, and attitudes needed to teach effectively for sustainability (Chinedu et al., 2018). Second, the curricula taught across different disciplines in universities represent vehicles for preparing higher education students to incorporate sustainable attitudes and practices into their lives (Figueiró & Raufflet, 2015; Stephens et al., 2008; Rusinko & Sama, 2009; Sammalisto & Lindhqvist, 2008; Scott & Gough, 2006; Starik, 2006; Benn & Dunphy, 2009). Finally, the role that universities play in knowledge creation has wide-ranging implications for global efforts to find sustainability solutions (Cortese, 2003; Martens, 2006; Porter & Cordoba, 2009; Rands, 2009). These features suggest the suitability of analysing HESD as a hybrid of the broader field of education for sustainable development (Rusinko & Sama, 2009; Sammalisto & Lindhqvist, 2008; Scott & Gough, 2006; Starik, 2006; Benn & Dunphy, 2009; Lozano et al., 2013).

More specifically, it involves educating students on the necessity of sustainable development by integrating sustainable development issues into all aspects of teaching, research, and service.

Rusinko and Sama (2009 presents a matrix of possibilities on how to integrate sustainability into management and business education (studies). This matrix is flexible, you can choose different alternatives or implement many alternatives at once. Users, including faculty and administrators, can begin by choosing any option (or quadrant) that works best for them. This type of matrix is in line with the recommendations of researchers Lidgren, Hakan, and Huisingh (2006), Sammalisto, Lindhqvist (2008), Scott and Gough (2006), Rands (2009), and Starik (2006), and assesses all dimensions of sustainability - environmental, socio-economic / financial, provides consumers with many opportunities to integrate sustainability into management and business / economics studies, develops students capable of contributing to sustainable organizations and society, and can benefit multiple users (faculty, staff, administrators), the matrix shows how sustainability can be integrated into all business disciplines.

The matrix allows faculty, staff, and administration to choose the best option for integrating sustainability into their curricula, considering desired outcomes and resource constraints. In addition, this type of matrix can become a scheme for assessing the effectiveness of different options for integrating sustainability into management and business / economics training. This matrix does not include study subjects, modules, or results. Assessing sustainability in the matrix focuses on structural possibilities in

presenting sustainability in management and business / economics training. A short list of resources is also provided to strengthen the integration of sustainability into management and business / economics training.

Although there are several definitions of sustainability, this research defines Sustainability as development that meets the needs of the present generation without compromising the ability of future generations to meet their needs (World Commission on Environment and Development, 1987: 8). According to other researchers (e.g., Kagawa, 2007; Venkataraman, 2009), sustainability is defined by three dimensions: environmental, social, and economic / financial. According to Neubaum, et al. (2009), sustainability in business management requires that corporate environmental and social responsibility be providing the same weight as the economy.

At the global level, guidelines for a long-term sustainable development strategy have been set out in United Nations Agenda 21. At the World Summit in 1992 In Rio de Janeiro, Brazil, this document was endorsed and committed to by almost 180 world heads of state / government, including Lithuania. Agenda 21 consists of 4 chapters (40 sections):

1. Socio - economic aspects (sections 2 to 8). This chapter formulates the most important tasks in order to reduce poverty, change consumption patterns, improve health protection, take into account demographic trends and promote sustainable settlement development.

2. Conservation and management of development resources (sections 9-22). Natural resources determine sustainable development, therefore it is important to pay due attention to: preservation of the atmosphere, quality freshwater resources, forests, biodiversity; the protection, rational use and development of the oceans, seas and coasts and their living resources; environmentally sound use of biotechnology, sustainable agriculture and rural development. An integral part of the strategy for the conservation of natural resources is the environmentally sound management of solid and liquid, hazardous and radioactive waste.

3. Strengthening the role of key groups in society (sections 23-32). The implementation of government decisions on ambitions, strategies, and measures in all areas of Agenda 21 is driven by the commitment and stakeholder participation of all social groups. One of the main preconditions for sustainable development is the participation of the public in decision-making. This chapter discusses the role of children and young people, non-governmental organizations, local government, business and industry, researchers and technology developers, and farmers.

4. Implementing measures (sections 33-40). Measures to achieve the sustainable development goals include: green technology transfer, cooperation and capacity building; development of science, education, public information and professional development; collection, processing and availability of information needed for decision making; international cooperation and the role of international institutions.

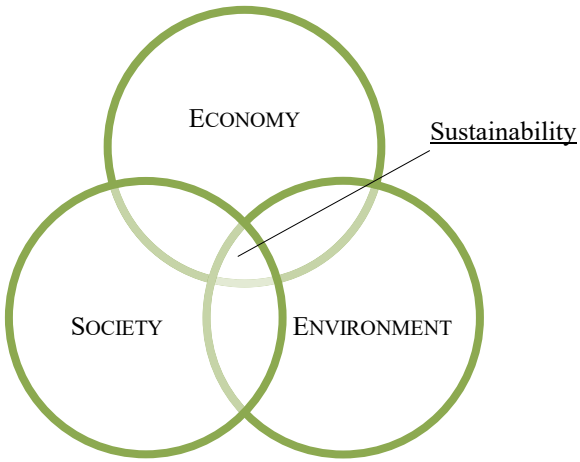


Figure 1. **Sustainable development: three overlapping spheres** (Adams, 2006)

According to Hitchcock and Willard (2009), the implementation of the principles of sustainable business is determined by three groups of factors: business / economic, social, and environmental factors. In order to achieve a better quality of life at present and in the future, economic, social development and environmental objectives are combined and complementary. Environmental sustainability includes efforts to save and reuse resources. Social cohesion includes efforts to promote justice (impartiality), diversity and

social justice. Economic sustainability includes efforts to reduce poverty and promote fair trade and survival. These three dimensions of sustainability overlap (see Scott & Gough, 2006).

Business / economic factors. Money in business is like blood, which ensures the successful functioning of the company. A favourable environment is essential for a company to be able to operate successfully and achieve its traditional goals. These would be suppliers, employees and buyers, access to necessary information, accounting standards and compliance, absence of corruption, access to sources of financing (stock exchanges, banks, etc.), absence of high inflation or deflation, business laws and compliance.

Social factors. Without a well-functioning education system, then it would be difficult for a business to function successfully, as people who are already educated and have acquired not only the basics but also special professional knowledge come to work in the business. Business success also depends on a well-functioning health system as it helps ensure the health of employees. The absence of social exclusion and a strong middle class are also those social factors that positively influence the successful functioning of a business by ensuring market stability. Security and low crime rates also lead to a more favourable social environment for business.

Environmental factors. By decoupling environmental information from the model of economic development, we cut the branch on which we sit. The limited non-renewable natural resources on which our economic growth is now based are now those limiting factors that we cannot ignore, as was the case in Adam Smith's day. Therefore, when considering environmental responsibility issues in a company, it is useful to know the following principles and try to follow them when developing new products or processes:

• we cannot extract more resources than we can use safely;

• we cannot upset the sensitive ecological balance by introducing products that are alien, toxic and dangerous to the natural environment;

• nature is a life-sustaining system, so we cannot destroy it.

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2004), education for sustainability must cover all three dimensions - social, environmental and economic - as it enables people to develop the necessary skills, knowledge and perspectives to make decisions that improve quality of life at all levels.

## INTEGRATING SUSTAINABILITY INTO MANAGEMENT AND BUSINESS / ECONOMICS STUDIES

In order to effectively integrate sustainability into management and business / economics studies, it is necessary to decide how this should be implemented, either through existing structures or by creating new structures (e.g. Sammalisto & Lindhqvist (2008)). For example, sustainability can be integrated into management and business / economics curricula through existing structures: subjects, topics, cases, modules. Sustainability can also be integrated by creating new structures such as a new course, compulsory, elective subjects or study programs It is currently being discussed whether sustainability should be integrated to individual subjects, or taught as a separate subject (e.g., Christensen et al., 2007). The matrix of sustainability integration opportunities in business and management / economics studies is explained below and shown in Figure 2.

| | *Existing structure* | *New structure* |
|---|---|---|
| *Narrow discipline-oriented study program* | I. Integrate into existing courses | II. To create new disciplines - separate subjects of sustainability |
| *Broad interdisciplinary study program* | III. III. Integrate into compulsory subjects | IV. To create new, interdisciplinary compulsory and optional sustainability courses and programs |

Figure 2. **Matrix of possibilities for integration of sustainability into business and management / economics study programs** (Rusinko, 2010)

It is also necessary to pay attention to the integration of sustainability into management and business / economics studies according to Lozano (2013), who states that sustainability can be integrated using different methods, both focusing on specific disciplines (e.g. management) and influencing the whole study spectrum (e.g. business / economics studies) (e.g., Lozano, 2013). The advantages and disadvantages of these methods, as well as examples, are discussed below.

An increasing number of literature sources emphasize the importance of students 'active involvement in the development of post-graduate skills (e.g., Ahren, 2009; Kuh, 1995). According to Kuh (1995), students' activities outside the study program help to develop self-awareness and value, independence, communication and decision-making skills, and critical thinking. Moffat (1988) states that independent activities outside the classroom activities make up a significant part of the learning and skills development experience (more than 40%). Thus, the sustainability integration matrix includes both direct business and management / economics study programs and students' independent activities.

The first quadrant describes the integration of sustainability into existing structures on a narrower scale, focusing on specific study subjects. An example of sustainability could be inclusion as a theme, group of topics or self-education project in an existing management course. This can be done by individual faculty units and lecturers, and it can be implemented thanks to guest lecturers, guests, or student projects. In applying the first quadrant, attention must be paid to consistency with the description, contents, and educational objectives of the subject taught. For example, an operations management course may include a topic on supply chain formation based on the principles of sustainability, fair trade, or change traditional delivery methods to introduce alternatives. This approach to integrating sustainability in the teaching of the supply chain not only covers all three dimensions of sustainability: environmental, social, and economic / financial, but also generally remains consistent with the course description, content, and training objectives.

The biggest advantage of the first quadrant is that its implementation does not require a lot of resources, maintenance, and coordination, the efforts of individuals are enough. The disadvantage is that the possibilities to include sustainability teaching are quite limited, it is not always possible to cover all or even part of the course taught. However, there are examples where sustainability teaching has been successfully incorporated into many management courses using this approach and with the broad support of administration and faculty, as has been done with the Management and Business Administration program at Sydney University of Technology in Australia (Benn & Dunphy, 2009).

The second option, the quadrant, is the ability to integrate sustainability in the narrow sense of the subject taught, but by creating a new structure. An example of this could be the creation of a new curriculum, say the Organization and management of sustainable activities. Such a single course would provide more time and opportunities to develop the relationship between the disciplines taught, as well as the concept of sustainability, and to reveal the three-dimensional picture.

The advantage of this approach is independence and full integration into the study program. Taught as a separate course, it acquires its own identity and connection with other disciplines taught. The main disadvantages are that the development of such a taught subject requires a lot of resources, time, cooperation between various departments of the higher education institution, teachers, and administration. This approach can also be dangerous if sustainability is taught as an elective, then it may be inconsistent with or overlap with the core subjects (Shriberg, 2002).

This approach should only be chosen if the integration of sustainability into the training course is defined as a priority objective with sufficient attention and resources. Cooperation between university institutions of various levels is ensured, the aim is to emphasize the identity of the study program, coordinated with the integration of sustainability.

The third approach involves the possibility of integrating sustainability into existing structures, but more broadly, by linking sustainability to the various disciplines of the program and introducing the concept of sustainability and its implications for a wider flow of students. It can be used to adapt an existing business / economics study program. Sustainability topics can be presented in existing program modules as separate examples, or to encourage students to take an interest in literature on the topic, to include in bibliographies, to promote self-education on this topic. The core disciplines of marketing or management can adapt the topic of sustainability to various aspects of the subject being taught or present as one of alternative approaches.

The advantage of the method is the broad focus on sustainability in the study program and the actualization of the topic to a larger number of students, as sustainability as a topic is included in most of the main subjects taught. The main problem is that the implementation of such a system again requires extensive cooperation, strong attitude, high cost of time and other resources. This approach should only be chosen by those higher education institutions for which the integration of sustainability is a priority.

The fourth quadrant presents an opportunity not only to create new organizational structures, but also to focus teaching disciplines around sustainability. It is the development of new study program (s) in which the main emphasis is on sustainability. Sustainability should be presented not only in individual specific disciplines but should cover many subjects and be presented as an introductory or concluding part, necessitating integration with both core/compulsory and elective/optional subjects. This approach not only involves the academic field of teaching, but also involves a wide range of stakeholders: organizations, clients, and citizens (Lozano, 2013) and thus involves sustainability-oriented teaching projects in a larger (non-university) community.

This alternative integrates sustainability education into two or more business / economics teaching disciplines and involves stakeholders from outside the academic community. The main disadvantage of this method is that it requires the most resources, coordination both within and outside the business school. It would only be chosen by higher education institutions for which the integration of sustainability into business studies is a strategic goal.

The methods (alternatives) presented in the matrix above are the main ways of integrating sustainability into study programs, but it is not necessary to limited by them. All alternatives can be adapted to teaching methods that include guest lecturers and guests or student-client group projects that help to integrate sustainability into management and business / economics studies. The Internet and other e-learning tools help to implement sustainable learning. Skype and other video conferencing programs help introduce students to experts from a variety of fields and sectors without the inconvenience of traveling. YouTube is rich in sustainability topics for a variety of presentations, and teachers can quickly and easily find material on both the concept of sustainable development itself and examples from a variety of companies. An example is a series of interviews with Ray Anderson, a long-time promoter of sustainable development, Interface. Inc. founder and CEO. He presents his approach to sustainability in the business world. At the same time, YouTube is an interactive media tool appealing to contemporary students who can provide visuals for sustainability projects. These are easily accessible tools that can be used as a starting point in the study process. An abundance of other sources of information can be used later.

This matrix of choices can be applied in various ways, its flexibility allows you to choose one or more alternatives, to combine them with each other. It can be applied in all three areas of sustainability, not just the environment. It also allows to determine the importance of the integration of sustainability in higher education, allows to develop discussions on the topic of the need for sustainability, to determine its significance. Yen-Chun Jim Wu et al. (2010) conducted an online content analysis of 642 management degree programs related to sustainability and revealed significant differences in study program design between European and American business schools. In European schools, the choice-oriented approach and sustainability are more widely integrated into undergraduate curricula, while in American business schools, sustainability-related courses are more offered as compulsory subjects in graduate study.

## CONCLUSIONS

1. In addressing global challenges, sustainable development becomes a fundamental law of nature that man should not violate in order to ensure the sustainability of the system and the continuity of humankind, while ensuring social justice and economic well-being.

2. In order to achieve a better quality of life, not only now but also in the long run, higher education is becoming an important tool in building the conditions for society to create a more sustainable future and to provide knowledge to more students.

3. Sustainability can be integrated into higher education, specifically in management and business / economics studies, using different alternatives, both focusing on specific disciplines and influencing the whole learning process. Flexible integration of different teaching methods, including guest lecturers and / or student group projects, enables future professional solutions to economic, social, and environmental problems.

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