

**THE IMPORTANCE OF UNIVERSITIES
FOR SOCIETY AND ECONOMY
THE EXPERIENCE OF RESEARCHERS
FROM THE VISEGRÁD GROUP**

THE IMPORTANCE OF UNIVERSITIES FOR SOCIETY AND ECONOMY THE EXPERIENCE OF RESEARCHERS FROM THE VISEGRÁD GROUP

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Publishing House of Wrocław University of Economics and Business
Wrocław 2024

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Wrocław 2024

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ISBN 978-83-67899-91-8 (for the paper version)

ISBN 978-83-67899-92-5 (for the electronic version)

DOI: 10.15611/2024.92.5

Quote as: Drelich-Skulska, B., Sobocińska, M., & Tomášková, A. (Eds.). (2024). *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group*. Publishing House of Wrocław University of Economics and Business.

Printing: TOTEM

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Foreword

The functioning of universities is affected by numerous factors, exogenous and endogenous, which reflect changeability of the environment, and the emergence of new types of economy and society based on knowledge. Among the developmental factors, the most frequently pointed out are human resources, talent, creativity, innovativeness, along with technology and its creative application in many areas of socio-economic life. Knowledge, as one of the resources and capabilities of using it, increasingly decides about an individual's place in the social hierarchy, and in the case of enterprises and countries – about their competitive position.

The long-standing term 'university' comes from Latin, meaning 'entirety, the universe, teachers and students in general'. An important stage in the development of universities was the emergence of the Humboldt model, based on five principles: the unity of knowledge and science, unity of research and education, unity of professors and students, academic freedom and autonomy, unity of national spirit (Sułkowski, 2016, pp. 14-17). In reference to the concept of Karl Jaspers, it is worth indicating that the task of a University is

science, and scientific research and education as the revelation of truth serve to form intellectual life. The realisation of these tasks is linked with communication between intelligent people, between researchers, between students and teachers, between students themselves, and finally, depending on intellectual conditions, communication of all with everyone (Jaspers, 2017, p. 71).

Nowadays, universities operate within ever more complex networks of relations created with other universities, worlds of business and culture, and also with the authorities of towns, communes and regions. The paradigms in didactics are changing, and there is also a drive towards increasing the scope of practical implementation of knowledge generated by the world of science.

It must be noted that universities should be both evolving under the influence of socio-economic processes and transformation, and affect desired changes in the environment. There is a growing need for the shift of society towards more sustainable life styles and models of consumption in order to limit negative changes triggered by the climate crisis. This requires significant changes in production and consumption trends, building the culture of responsibility, as well as including in the individual stages of the value chain the environmental and social issues. In this

context a question can be asked about the role of universities, and the relevance of research they conduct for the construction of sustainable societies and economies.

An attempt to answer this question was made by 28 authors representing 12 universities from the Visegrád Group. Addressing the problems discussed in this monograph from the perspective of the experience of researchers from Poland, Czechia, Slovakia and Hungary, corresponds with the important direction in the development of science, namely its internationalisation.

The monograph consists of three parts. The first concerns the functioning of universities and directions in the development of education, as well as the scientific research conducted in the context of the sustainability crisis, and the need to expand the scope of implementation of the sustainable development concept. The considerations included in the second part of the monograph regard academic teaching and areas of research emerging in the context of the ongoing technological progress, particularly visible in the growing use of artificial intelligence (AI), and the need to develop digital competencies. The third part presents the results of research undertaken in view of finding research gaps resulting from changes in the geopolitical and social conditions produced by the COVID-19 pandemic.

The study by Bogusława Drelich-Skulska, Magdalena Sobocińska and Małgorzata Domiter, opening the monograph, discusses the role of universities in shaping responsible society and expanding the scope of the implementation of sustainable development by entrepreneurs and consumers alike. The authors, starting their study from considering the evolution of the functions and tasks realised by universities, pointed out that modern universities have many opportunities for their participation in the realisation of sustainable development objectives and in stimulating entrepreneurs and consumers to behaviour following the model of the moderation economy. This is linked to the acceptance of the assumptions of sustainable development in many areas connected with university's functioning, including scientific research, commercialisation of its results, concepts and educational programmes, and also management of a university. The presented issues were illustrated by the example of Wrocław University of Economics and Business (WUEB), which applies a strategic approach to shaping the culture of responsibility.

Particular attention was dedicated in the monograph to the need of addressing ecology-related issues in educating future managers. Emília Huttmanová, Jana Chovancová and Radoslav Mikča emphasised the fact that implementing deep structural changes in the economy, including the aspect of the protection of the natural environment, requires understanding and support on the part of society. In this context, universities have an important role to play, as they co-create an environment conducive to studying the ongoing changes (climatic, social, demographic, etc.) and their dynamics and effects. The study showed that higher education has the potential to form competencies of graduates, including green competencies, in order that

they become drivers of societal progress. The authors presented the relevant activity conducted by the Faculty of Management and Business of the University of Prešov in Slovakia.

Another study, by Piotr Gryszel and Sabina Zaremba-Warnke, considered the role of the Academic Coordination Centre for the Euroregion Nysa (ACC) in the implementation of the objectives of sustainable development. This paper presented the unique initiative of the higher education institutions, which is the association of universities from Poland, Czechia and Germany operating in the Euroregion Nysa starting from 1992, and described selected activities of the ACC contributing to the realisation of the assumptions of sustainable development, and in particular the transborder projects dedicated to this issue, the ACC Forum and the annual Conference of Young ACC Scholars.

Agnieszka Piekara addressed the important research problem of food waste, and described the current level of food waste in Poland, Czechia and Slovakia, and the reasons behind this phenomenon. The study revealed in what way food waste obstructs the realisation of sustainable development goals, and indicated the need for preparing and implementing a strategy of food waste minimisation, as well as the promotion of more sustainable systems of nutrition. The author also drew attention to the fact that prevention of food waste at each stage of the food chain requires cooperation between public administration (at EU and individual country levels) and the non-governmental organisations.

Eva Kostikov, Dawid Szramowski and Martina Švecová revealed the key role of recycling centres in the implementation of a circular economy. This paper has the character of a comparative case study in which the authors analysed the operations of recycling centres in Czechia and Poland, which extend the life cycle of products *via* repairs, renovation and redistribution. They make up a part of sustainable waste management and of circular economy. The authors' analyses indicate that such centres contribute to waste reduction, education of society and job creation. Both countries, despite their differences in the approach and community engagement, developed their unique models of activity, which can provide inspiration to others.

The first part of the monograph concludes with a study in which Łukasz Jurek addressed the issue of sustainable development of the welfare state from the perspective of social fraud. These problems have not been frequently examined, and there is a real need for closing the existing research gap. The author stressed that the term 'social fraud' covers a wide range of pathological behaviour regarding the social welfare system related to both petty and serious crime. This subject matter is even more relevant due to the fact that serious crime always results in the greatest losses, however being fairly rare, while petty crime, although in single cases causes only small damage, yet its very scale means that it can significantly reduce the effectiveness and hamper the functioning of the social benefits system. The role of the researchers into

this subject matter was to uncover reliable information which could provide the basis for establishing directions of the activities aimed at reducing the abuse of the social welfare system.

The studies presented in the second part of the monograph deal with forming digital competences and conducting scientific research in the era of technological progress and dynamic development of artificial intelligence (AI). Anna Mempel-Śnieżyk and Petr Hlaváček presented the results of their research focused on the evaluation of progress in the implementation of e-government in EU countries, and on the analysis of its linkages with the objectives of sustainable development. The use of such tools as e-government development index (EGDI), and sustainable development goals (SDGs), allowed to examine dependencies between the progress in e-government and the achieved goals of sustainable development. The study showed geographical differentiation within Europe, as well as the differences between the north-western countries and the south-eastern ones. The authors stressed that identification of these differences is crucial for the understanding of factors leading to disparities, and enables to formulate recommendations aimed at sustainable development of society both on a local and global scale.

The subject matter of the next two chapters of the monograph is connected with the development of AI, finding ever wider usage in numerous areas of socio-economic life. Petr Svoboda and Ladislava Knihová conducted an in-depth review of how artificial intelligence and the need for new competencies impact the shape of university education. The analyses conducted by the authors suggest the need to create new competencies among teachers, which will allow them to apply AI in teaching students and in their own academic research. This is connected with the necessity of preparing a purposeful and sustainable strategy of implementing AI in education, in order to include human approach and create valuable relations between students and teachers. This should translate into providing students with indispensable skills necessary for their development and professional career in an increasingly digital world.

The authors of the next chapter, Andrea Tomášková and Ladislava Knihová, showed the significance of innovation and AI in the evolution of family enterprises and emphasised the great importance of cooperation between family-run companies and universities, which should continuously develop their educational programmes. The study also pointed out that the key to success of family businesses is maintaining their values, traditions and following sustainable development.

The studies presented in the third part of the monograph provide a reply to the changes in the geopolitical and social conditions, including those resulting from the COVID-19 pandemic. Eva Ardielli, Robert Kovács, Marta Maciejasz and David Slavata conducted the analysis of the affordability of housing in the countries of the Visegrád Group which experienced economic transformation within the last 30 years, and this

applied also to the housing market – from the one regulated by the state to a self-regulating one. This meant that housing has become a marketable commodity whose affordability is determined mainly by the individual household's credit-worthiness. At the same time the authors indicated the differentiation existing not only between the selected countries but also between their regions, and that the state and the local communes play an important role in establishing the availability of housing and modification of the conditions in the local housing market.

The monograph also addressed the problems related to the consolidation package regarding the public finance sector in Czechia, whose introduction was linked with implementing changes in expenditure and revenue sections of the budget in order to stabilise public finances and reduce the public debt deficit. Otakar Schlossberger and Andrea Tomášková emphasised that these means impact the public sector, enterprises and households, both on an international and regional scale. The authors also pointed out the importance of universities as key educational institutions and a factor in the country's economic growth and in raising its competitiveness.

The considerations included in the papers comprising the third part of the monograph are also oriented at the matters linked with strengthening the transborder cooperation between Poland and Czechia. Katarzyna Łukaniszyn-Domaszewska and Roman Śmiateński showed that transborder cooperation constitutes an important factor in the regional development and integration within the EU. In the case of these two countries, their cooperation is being realised and extended *via* the Euroregions. One should note that starting from 1991, six Euroregions were created, along with two European Groups for Territorial Cooperation. This institutionalisation of the transborder cooperation contributed to achieving and maintaining the high level of mutual Polish-Czech relations. The authors presented the opportunities and challenges of transborder cooperation between Poland and Czechia in the context of the Euroregions, concentrating on the key initiatives, best practices, and also indicating the areas for improvement.

In their study, Daria E. Jaremen, Izabela Michalska-Dudek and Pavlína Pellešová based on the results of their empirical research, identified the changes within the process of decision-making of the organised tourism events, regarding three different periods: prior to, during and following the COVID-19 pandemic. The identification of these changes allowed the authors, as well as the practitioners, for a better understanding of the evolution in consumer behaviour, and for the latter also adjusting their business strategies to the changing market environment. It should be stressed that the study has both a cognitive and applied character, significant from the viewpoint of the development of functions realised by universities.

We would like to thank all the authors for preparing such interesting and valuable studies. The research results presented in the monograph and the conclusions they provide, indicate the crucial role of universities in shaping the socio-economic

changes in response to modern challenges and to the need to implement the principles of the sustainable development concept. We hope that the considerations and analyses presented in the monograph will prove both valuable and inspiring for the variety of entities in the university environment, interested in the inclusion of ecological and societal issues in the formulated strategies and conducted activities. Bearing in mind the notable volatility of the environment, and dynamic development of new technologies, accompanied by the emergence of new research contexts, as well as the necessity to monitor progress while building the economy of moderation, we would also like to point to the need for the further exploration of these problems. We cordially invite international research teams to present the results of their research in future scientific publications of the prestigious Publishing House of this University.

Bogusława Drelich-Skulska, Magdalena Sobocińska, Andrea Tomášková

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PART 1

Universities and Scientific Research in View of Sustainable Development



CHAPTER 1

The Culture of Responsibility of a University as the Factor Stimulating Implementation of the Principles of Sustainable Development by Entrepreneurs and Consumers

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Quote as: Drelich-Skulska, B., Sobocińska, M., & Domiter, M. (2024). The Culture of Responsibility of a University as the Factor Stimulating Implementation of the Principles of Sustainable Development by Entrepreneurs and Consumers. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 17-31). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.01](https://doi.org/10.15611/2024.92.5.01)

Abstract: The aim of this section was to present the role of universities in shaping a responsible society, and extend the scope of the implementation of sustainable development principles by entrepreneurs and consumers. Particular attention was paid to a university's responsibility culture, a factor which conditions the implementation of the sustainable development concept not only in the university itself but also by its stakeholders. This requires including the category of sustainable development in many areas related to the university's functioning, including scientific research, commercialisation of its results, educational concepts and programmes, and also managing the university itself. The considerations presented in this chapter centred on the evolution of functions and tasks performed by universities, as well as indicated in what way they can participate in the realisation of the aims of sustainable development, and stimulate entrepreneurs and consumers to behaviour based on the model of the economics of moderation. The study was based on an extended literature review and analysis of practices developed in WUEB, where the strategic approach to shaping the culture of responsibility is applied.

Keywords: sustainable development, universities, culture of responsibility, green competencies



1.1. Introduction

In the face of growing climate change and the related threats to civilisation, particular importance has been attached to concepts such as sustainable development and economics of moderation. This also indicates directions of activities undertaken by universities.

The essence of sustainable development is a reduction in the scale of poverty and social exclusion, and providing future generations with conditions for their development, analogous to the contemporary, as well as maintaining cultural diversity. The characteristics of this long-term process include sustainability, durability and self-sustaining development (Borys, 2005, p. 30). Sustainability involves maintaining the correct balance between developmental requirements and the need for environmental protection. Durability requires ensuring the availability of natural resources, whilst self-sustaining development refers to the existing co-dependencies between economic, ecological and social factors in the stimulation of long-term economic growth.

In its turn, the economics of moderation postulates lowering the level of the exploitation of natural resources from the viewpoint of the satisfaction of human needs. In particular this applies to economies and entities whose level of well-being is not below the subsistence level. Due to the deteriorating condition of the natural environment, this economic theory is also distinguished by indicating the necessity of state intervention not only at the level of individual states but also on the international scale. One should also add that ideas contrary to the concept of economic moderation include excessive consumption and consumerism. In practical terms, the implementation of the principles of the economics of moderation also means the selective financing of science, which should apply especially to various types of 'green' research. Moreover, in the context of the climate crisis it is of great importance to move away from purely immediate, *ad hoc* thinking under pressure, governed merely by solving current problems. Among the archetypes of such categories are the concepts of common good and global rationality (Gorynia, 2023, pp. 147-154).

In this context there arises a research question about the possibilities and role of universities in shaping a responsible society and in increasing the scope of implementation, by both companies and consumers, of the principles of sustainable development as well as the economics of moderation. Educational aims have been defined in, among others, UNESCO documents. In light of their analysis, attention should be drawn to the need and importance of education about peace and human rights, also pointing out the significant role of developmental and environmental education (Czaplińska, 2010). The tasks facing educators involve increasing

awareness, knowledge and sensitivity of individuals regarding global problems and contributing to solving them. Analysis of the subject literature revealed that the challenge facing the tertiary education system concerns creating and developing such competences which would allow individuals to understand multidimensional processes and foresee their consequences, as well as make decisions which take into consideration their global context, social and economic outcomes, and also the impact on the natural environment.

While aiming to answer the formulated research question, the study described the evolution of the functions performed by universities, along with the concept of sustainable development within the context of tasks realised by them. Particular attention was placed on the culture of responsibility in universities, treating it as a factor conditioning the implementation of the principles of sustainable development not just in the university itself but also by entities in its environment.



1.2. Evolution of the Functions Performed by Universities

The realisation of the aim of this research required showing the way in which the thinking about universities, their perceived mission and their tasks, has changed over time. A university, with its institutional origins set in the Middle Ages, has been evolving, accompanied by the changing perception of its roles. Teaching was the essence of the medieval university model (the period 1100-1500), conducted in Latin within a master-student relation, while serving society was not part of the university mission, whereas in the following stages of the development of universities' services to the state and society grew in importance. In the period 1500-1800, scientific research and response to societal needs became much more relevant than in the earlier centuries. An additional feature distinguishing this model from the medieval one was targeting education towards professional preparation, the national and lay character of universities, their dependence on public funding and the simultaneous autonomy in nominating their lecturers. In showing the evolution and changing role of universities, one should also touch upon the stage of founding state universities (in the USA, 1776), focused on democratising education, providing services and obtaining finance from private individuals. On the other hand, characteristic of Humboldt University established in Berlin in 1809, was to prioritise research activity (both fundamental and applied), as well as aiming to engage the most prominent scholars and guarantee freedom in their research activity, along with ensuring unity of research and teaching, and equalising the status of all fields of science. Such aims of universities' existence as public service and transmission of knowledge to the environment are associated with American universities in the 19th and 20th centuries. Among the features of this model of university education, one can indicate striving

to ensure that the created and transmitted knowledge was useful. Moreover, at this stage of universities' development, first academic organisations have emerged, an increasing number of scientific conferences takes place, accompanied by scholarly publications, while universities play also cultural role. Along with the transfer of knowledge to their environment, also some criticism appears concerning the growing dependence of universities on the business sector, and thus the need to maintain equilibrium between their autonomy and dependence towards the authorities and companies. The analysis of the development stages of universities indicates that currently their mission is the creation, transformation and propagation of knowledge in their environment, as well as their contribution to developing knowledge-based society. There is also a growing international cooperation, where internationalisation concerns education, research and collaboration with their environment. One can also observe the greater relevance of social responsibility of universities, and the co-creation of added value by both the internal and external stakeholders of the university (Leja, 2013, pp. 34, 35, 185-187; Scott, 2006).

In consequence, this means that the scope of the roles played by universities is extending. Whereas in the Middle Ages serving the state and society by universities was not an important part of their mission, at the later stages in their development this purpose has grown in importance, together with their growing participation in solving the problems existing in the modern world.

This is clearly expressed in the concept of the University of the Third Generation, whose role is not limited to conducting scientific research and education, but is also closely linked with the practical application of the created knowledge. The core activity of the Third Generation Universities is carrying out fundamental research, as well as interdisciplinary and transdisciplinary studies. Moreover, the tasks of modern universities include the creation of networks, within which they cooperate with businesses, private research and development entities, financial institutions, professional services providers, and with other universities. Their consequence is, among others, the fact of being financed both by the state and by the private sector. Such universities are active in the international market and compete for the best scientists and students, as well as research commissioned by businesses, and thus provide a special range of opportunities for the most promising students and the best staff. Managing the Third Gen University put special emphasis on stimulating creativity in scientific research and attracting students and employees from diverse countries. Bearing in mind the conditions for developing creativity, it should be stressed that these organisations are of multicultural nature. They play the part of incubators of new creativity because apart from conducting research and educating, their aim is also to encourage the use of know-how (Wissema, 2009, pp. 11, 12).

The described changes in the functioning of universities and the roles they play, are also immanently linked with seeking innovative approaches to the creation and

distribution of knowledge, being oriented towards its applicability, transdisciplinary nature and open access to data. This is well encapsulated in the so-called 'living labs' which are supposed to become an answer to the changing role of their users – from passive consumers to active prosumers – or by shortening the length of time between creating an innovation to its commercialisation. The living lab model of functioning combines the logic of the project realisation with such methods of co-creation as Design Thinking and Human-Centred Service. The first living labs were established in the 1990s in the USA, and one of those was MIT Media Lab. Going beyond the technological character of this method of innovation, and using it as a tool of societal innovation and was linked in Europe with its very intense promotion in EU programmes. The European Network of Living Labs indicates the following six key elements which clearly express the concept of living labs:

- active involvement of users which means that feedback from stakeholders is recorded and implemented during the entire cycle of creating innovation,
- participation of numerous stakeholders representing universities, the public and business sectors, and society in general,
- co-creating value bottom-up by the interested stakeholders, which should translate into the increased acceptance of the generated solution and its implementation,
- setting in the actual users' environment, and not in an artificially created test space,
- multiple-method approach, which means that the actions and methods applied aim at resolving the specific problem,
- functioning as a particular 'orchestrator', animating the eco-system and bringing together appropriate stakeholders (Jałocha, 2023).

One should underline the functions of universities, expressed in the development of advanced science, stimulating enterprise and passion for the life-long gathering of knowledge, as well as shaping the pro-innovation orientation within the educational process, to enable taking advantage of opportunities offered by modern civilisation. This is linked with transforming the educational mission of teaching into the mission of providing individual learning methods (Bielecki, 2001), and arriving at the point where education will be treated as one of the elements in the lifestyle concept (Jankowski et al., 2003, p. 52). This requires including diverse paradigms in the educational concept, not only the traditional imitation-transmission approach, but also creative teaching of an exploratory nature, and developing didactics with the humanities perspective, whose results will translate into benefitting from opportunities for the development and increase of human wellbeing (Rutkowiak, 2009, pp. 27, 28). This also requires including the concept of sustainable development in both the strategies and activities realised by universities.

1.3. The Concept of Sustainable Development in the Context of Tasks Performed by Universities

The active role played by universities in addressing the problems and challenges faced by modern society means including in their activity the concept of sustainable development, an innovative model of socio-economic development. This is the type of development realised by humans and for humans, characterised by the ongoing integration of human activities undertaken in many areas – environmental, economic, technological, and socio-cultural. From the viewpoint of the framework and operating principles of universities, it should be emphasised that a very significant condition of the implementation of the sustainable development concept is the responsible society (Pezzey & Toman, 2002).

In the context of the origin and principles of sustainable development, one should draw attention to the mega-economic character of this concept, also adding that the macroeconomic scale of its realisation produces many implications at regional and local levels. The category of sustainable development constitutes an element of the sustainable development strategy itself, ecological policy as well as socio-economic policy, but is also a part of numerous socio-economic strategies realised by a variety of entities on international, national, regional and local levels (Jeżowski, 2007, p. 11).

The role of universities in the context of sustainable development is expressed, in particular, in forming ‘green competencies’ which allow for the transformation of the existing economic model into an ecological, low-emissions and favouring social inclusion. Such a transformation changes the entire economy, as well as the functioning of its individual sectors, and prompts changes in the labour market, on the one hand creating new jobs, and on the other replacing and redefining, or even making obsolete, some professions which do not enter into the green economy model. It should be noted that green competencies involve knowledge of technology, experience and skills allowing for the effective use of green technologies and processes in a professional setting. It is important that they are based on a wide spectrum of knowledge, values and attitudes, facilitating making ecologically-balanced decisions at work and in consumer choices (Ziółkowska, 2024). Hence, this means that green competencies comprise: green knowledge, green skills, green awareness, green attitudes, green abilities and green behaviour (Cabral & Dhar Lochan, 2019).

From the viewpoint of functions and tasks of universities in the process of building a new model of economy based on sustainable development, it should be stressed that the growing demand for green competencies has exceeded the increase in supply observed since 2022. Based on the LinkedIn study conducted in 48 countries, in 2023 the increase in the share of green competencies of employees amounted to 12.3%, with the accompanying growth of job adverts requesting at least one green skill rose by 22.4% (LinkedIn’s Economic Graph, 2023).

It should also be noted that there is a diversity between countries, which is expressed in the percentage of enterprises undertaking efforts in terms of effective management of resources linked with the protection of the environment, or the number of company employees with a green occupation, and the level of knowledge regarding protection of the environment. Poland and Czechia showed, to a higher degree, gaps in the specialist knowledge of environmental protection, similarly to the employment, just as in Slovakia there was the largest percentage of companies with at least one employee representing green professions. However, in terms of activities undertaken in the area of effective management of resources linked with protection of the environment in companies, the highest number was noted in Czechia, see Table 1.1.

Table 1.1. Knowledge activities undertaken in effective management of resources related to environmental protection and number of employees of green professions

Country	Lack of specialist knowledge regarding environmental protection (in %)	Activities undertaken by companies in effective management of resources related to environmental protection (in %)				Number of employees of green professions in companies (in %)		
		many	few	not many	none	0	1-5	6+
Czechia	21.8	30.5	34.7	21.2	13.5	77.2	18.7	4.1
Poland	27.7	24.3	31.8	27.3	16.7	58.5	34.7	6.8
Slovakia	7.9	21.8	27.7	36.8	13.6	38.8	52.6	8.6

Source: (Bassi & Guidolin, 2021).

An important factor conditioning the incorporation of universities into the process of implementing the principles of sustainable development is the creation in the institutions themselves, as well as in the entities from their environment, the culture of responsibility. This requires a distinction of the categories of responsibility 'before' and 'after' (Ingarden, 2017, pp. 73-150). Although responsibility prior to the act is described as a certain kind of disposition and readiness to take on responsibility and also predict its consequences, the actual responsibility appears after the occurrence of a certain event and/or behaviour (Bogunia-Borowska, 2021). Moreover, responsibility means a justified prediction of the effects of one's conduct on others, and taking action only when these results are suitable not only for the given individual, but also for others. Responsibility is also linked with abandoning egoistic attitudes in favour of pro-societal orientation and concern for other people and the natural environment (Sztompka, 2021, pp. 13, 32). Bearing in mind the crisis of sustainability and the need to reduce the negative impact of humanity on the natural environment, one can indicate that the culture of responsibility in universities is demonstrated through including the principles of sustainable development in their scientific research,

the commercialisation of its results, in the educational concepts and programmes, as well as in the process of managing these institutions. Thus, all this should translate into the implementation of the principles of sustainable development among university stockholders, and in particular entrepreneurs and consumers, see Fig. 1.1.

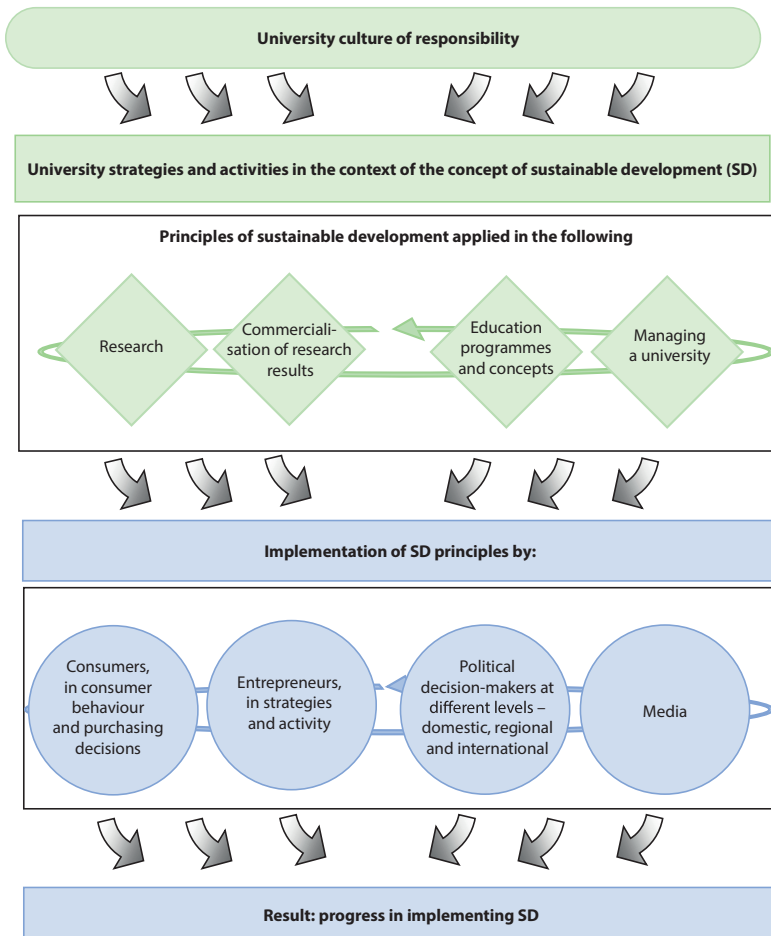


Fig. 1.1. University as a subject in implementing SD

Source: own study.

This is even more important, as facing contemporary challenges requires profound changes in the model of consumption, not only in terms of quality but also quantity in respect of the use of resources, which will allow for an actual reduction of their dwindling reserves. Sustainable consumption has a significant role to play in this

aspect, being in opposition to consumerist attitudes and behaviour. Its essence is the self-limitation of individuals within the applied consumption models.

Another aspect is the ecologisation of consumer behaviour, manifested by purchasing and consuming ecological products, as well as in the prudent, rational use of consumer goods and moving away from 'ego-rationality' towards 'eco-rationality' (Black, 2010, pp. 407, 408; Mazurek-Łopacińska & Sobocińska, 2018, pp. 409-420; Sowa, 2010, p. 188).

At the basis of sustainable consumption, corresponding to the model of the culture of responsibility, there is ecological awareness, and also the practical implementation of the principle of justice, both intra and intergenerational, which means that the increased well-being of some consumers should not restrict the possibilities of the improvement of the well-being of other consumers and future generations (Harrison et al., 2005, p. 3).

It should be noted that although consumers often support the principles of sustainable development, and perceive the necessity of reducing the negative impact of humanity on the natural environment, yet this has frequently only a declarative nature, and does not translate into actual behaviour following the model of sustainable consumption. The mere interest in products with the characteristics compatible with the principles of sustainable consumption is not enough for the actual realisation of the sustainable consumption model (McNeill & Moore, 2015; Morwitz et al., 2007). This phenomenon is defined as the gap between attitudes and behaviour (Burgiel, 2020, p. 238; Park & Lin, 2020; Terlau & Hirsch, 2015), manifested by the fact that despite the awareness regarding the need to implement the principles of sustainable development and its positive perception on the part of consumers, as well as their declared interest in purchasing goods produced by companies following these principles (Luchs et al., 2015), the actual market share of these products remains relatively small (Bray et al., 2011). This means that consumers' awareness and their positive attitude concerning sustainable development constitute a factor which is indispensable, yet also insufficient, to actually implement consumer behaviour following the model of sustainable consumption.

This demonstrates the multidimensional nature of the analysed problem and the scale of the challenges facing universities. In this context, a major role has to be played by business schools, which – through their research and educational programmes followed at various levels of education – can contribute to the implementation of the sustainable development concept in business activity by their graduates. This is of particular importance since building a company which remains in harmony with its environment provides an opportunity to increase innovativeness and create competitive advantage. The aim of maintaining ecological balance becomes a factor in company development in the passage of the company through the following stages:

- accepting these requirements as an opportunity, and convincing company's partners to implement ecological technologies, materials, procedures and processes by referring to the necessity of meeting legal requirements,
- imparting sustainable character onto the value chain,
- designing ecological goods and services,
- creating a new business model,
- building a platform for the development of new generation practices which change the existing paradigms (Nidumolu et al., 2010).

In aiming to provide an example of the culture of responsibility and its importance for the functioning of universities, it is worth demonstrating the approach elaborated in this scope by Wrocław University of Economics and Business (WUEB).

1.4. Culture of Responsibility Within a University – the Example of WUEB

The strategic approach to shaping the culture of responsibility by WUEB is reflected in the references made in the University mission to open debate and human community, and also – with a particular importance in the context of the discussed category – to the development in harmony with the environment and creation of a better world. Moreover, among the seven key values accepted by WUEB and shared by its academic community, there is also responsibility, along with community, truth, freedom, modernity, perfection and enterprise (Uniwersytet Ekonomiczny we Wrocławiu [UEW], n.d.). This is important, both due to the character of the contemporary socio-economic problems, as well as the role of the organisational culture in managing the organisation, described as its autonomous nervous system (Kilmann et al., 1985), made up of by the principles, norms, values, and models of behaviour shared by its members (Dessler & Turner, 1992).

The systemically conducted activities targeting the culture of responsibility and social responsibility commenced in the then University of Economics in Wrocław (now WUEB) in 2008 (see Table 1.2), with the appointment of a Deputy Rector for Persons with Disabilities, followed by signing the Declaration of Social Responsibility of the University (2017). In 2019 the University joined the PRME (Principles for Responsible Management Education) initiative supported by the UN, a platform raising the importance of sustainable development in universities all over the world, and its large reach is confirmed by over 730 fellow signatories. Among the organisational solutions aimed at supporting the implementation of the principles of sustainable development at WUEB, one should indicate the existence of the Rector's Commission for Social Impact and the Sustainable Development Office, incorporating initiatives in the area of environmental protection, corporate social responsibility

Table 1.2. Stages of institutionalisation of sustainable development at Wrocław University of Economics and Business

Stage	Year	Event
I	2008	Appointment of a Deputy Rector for Persons with Disabilities
II	2017	HR Excellence in Research
		Appointment of the Rector's Commission Green Team
		Signing the Declaration of Social Responsibility of the University
III	2018	Signing of the Declaration Climate Reality Project
IV	2019	The University joining the PRME initiative
V	2020	Appointment of the Service Section for Persons with Disabilities
		The Green Team Rector's Commission transformed into the Green Team Centre for Competences
VI	2021	Preparing and introducing the Rulebook for Sustainable Public Orders
VI	2022	Appointment of a Manager for Social Impact
		Establishment of the Rector's Commission for Social Impact
		Signing of the Diversity Chart
		Appointment of a Spokesperson for Counteracting Discrimination
		Appointment of a Spokesperson for Equal Rights
		Appointment of the Team for Equal Rights and Anti-Discrimination
VII	2023	Implementing the Gender Equality Plan in WUEB
		WUEB joining the campaign 'Universities Fair-Trade Friendly'
		Acceptance of the University's amended internal anti-mobbing and anti-discrimination policy
		Appointment of a Deputy Rector for Cultural Activity
VIII	2023	Founding of the Sustainable Development Bureau

Source: (UEW, in press).

and economic growth, as well as the appointment of a Deputy Rector for Cultural Activity. An important role is also played by the Green Team, which operates as the centre of competences directed at the propagation of knowledge on the subject of economic, social and environmental challenges, participation in building strategies and policies enabling the management of the University in line with sustainable development, as well as the green transformation of the campus, and supporting social responsibility of science. International cooperation is a significant area which should be developed in accordance with the goals of sustainable development, as reflected in the *International Development Plan* (Wrocław University of Economics and Business [WUEB], 2022) and the functioning of the International Accreditation Council at WUEB, as well as membership of prestigious accreditation institutions, e.g. the Association to Advance Collegiate Schools of Business (AACSB). The idea

and the principles of sustainable development are also popularised and promoted at the cyclically-organised conferences, such as 'Forum Green Region' (UEW, 2024). Moreover, work is ongoing in the University on the creation of the Strategic Plans of Sustainable Development.

One should also note that the problems related to responsibility, including social responsibility, and of sustainable development, feature largely in the scientific research conducted in the University, as well as in the educational content realised within various forms and courses of studies, programmes and conference debates, and the variety of scientific events popularising science with the participation of WUEB stakeholders. An important confirmation of the culture of responsibility are also international distinctions and accreditations awarded to the University, among which: CEEMAN IQA, EUA IEP, HR Excellence in Research, AMBA, EFMD, CIMA (WUEB, 2023). In presenting the wide range of implementation of solutions serving to shape the culture of responsibility, it is worth pointing out investment in renewable sources of energy and the installation of photovoltaic panels. A good example demonstrating the way of creating the culture of responsibility in the University is voluntary activity, supporting the civic behaviour of the academic community. One should stress that the process of institutionalisation of sustainable development has been frequently initiated by the University staff themselves, however fully accompanied by the understanding, commitment and support of the WUEB management.



1.5. Conclusions

In arriving at the conclusions, it should be underlined that universities have an important role in shaping the responsible society and increasing the scope of the implementation of sustainable development by entrepreneurs and consumers alike. Its principles mean moving away from the classical economy in which Nature is treated as a source of usefulness, and the way of resolving the problem of limited resources was technological progress increasing effectiveness in obtaining raw materials, in favour of the thinking characterised by limiting the pace of economic growth and changing the approach to the management of natural resources (Jager et al., 2000; Zrałek, 2020).

All this requires developing the culture of responsibility, based on innovative scientific research, modern educational methods, and the promotion of the concept of sustainable development, and their application is aimed at stimulating both the development of business models respecting the environmental and social consequences of the conducted activities, as well as sustainable consumption by implementing it in the current lifestyle of consumers.

This is even more important as the degradation of the natural environment is perpetuated not just by various enterprises but also by consumers. Another factor contributing to the ongoing crisis of sustainability is the chase after constantly emerging new models of consumption, caused by, among others, shortening the life cycle of products, leading to the development of consumerism, understood as the excessive consumption of goods and services, not justified by actual human needs and ignoring social, ecological and individual costs (Mróz, 2013, pp. 51-65). One should also add that the process of modernising consumption is linked with its humanisation and the satisfaction of constructive, not destructive, needs which damage people's sensitivity (Bogunia-Borowska & Śleboda, 2003, p. 265). In consequence, this sets a new framework for the functioning of universities, which through the conducted scientific research and commercialisation of its results, programmes and forms of education, can significantly contribute to the practical implementation of the principles of sustainable development and building the economy of moderation. However, this does not mean that such issues should not be considered more widely in the earlier stages of education.

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CHAPTER 2

Going Green in the Education of Future Managers

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Quote as: Huttmanová, E., Chovancová, J., & Mikča, R. (2024). Going Green in the Education of Future Managers. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 32-48). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.02](https://doi.org/10.15611/2024.92.5.02)

Abstract: The need to move society towards more sustainable living patterns is now reflected in many strategic European and global documents. This urgency has arisen from the pressure that humanity exerted on the environment and its resources. Changes in production and consumption trends are now inevitable, but their implementation is neither easy nor quick. Implementing such profound structural changes across the economy also requires understanding and support from society. It requires a sophisticated society both aware of the need for such change and capable of managing this transformation. Educational systems, and in particular higher education, offer and co-create an enabling environment for learning about the changes underway (climatic, social, demographic, etc.), their dynamics, impacts and overlaps, in order to promote adaptation and resilience in society. Higher education has the potential to go far beyond the educational institution, and a suitably trained and profiled graduate can be a valuable resource and accelerator of progress for society. The aim of this paper was to present different ways of implementing current challenges and trends, with an emphasis on green topics, into the educational content of future managers, using the example of the Faculty of Management and Business, University of Prešov, Slovakia.

Keywords: education, green topics, future managers



2.1. Introduction

The impact of environmental education is a reliable tool in the pursuit of sustainability and the implementation of comprehensive change. Green education plays a key role in expanding social and environmental awareness and improving individual understanding of the most pressing issues. Incorporating green education into the curriculum from primary to higher education will help to raise a responsible generation of environmentally conscious people who will have the up-to-date knowledge and skills needed to address environmental challenges. Environmental education improves critical thinking and helps students to understand in more detail the need for appropriate attitudes and practices in their everyday lives. Achieving the intersection of knowledge between human activity and the environment through green education contributes to building a more aware population that can greatly assist in implementing green and sustainable solutions in practical context (Xiao et al., 2024).

In transforming the mindset of society, disseminating information through educational systems is one of the most effective ways. Such environmental information does not just relate to a factual understanding of environmental issues, but actively encourages people to incorporate forms of responsible behaviour into their established standards. Students themselves respond more readily to the increasing costs of learning if the topic appeals to them or they are interested in it. Therefore, it is extremely important to get students interested in green issues before the initial step of education itself. The relation between a student's personal commitment to the environment and interest in overcoming the learning costs incurred in doing so is best explained by Campbell's paradigm (Baierl et al., 2022). This 1963 conceptual idea discusses that the relative cost (i.e. difficulty) of enacting a certain behaviour is a critical element for understanding the relationship between latent attitude and manifest behaviour. Therefore, a person who expresses an interest in environmental issues can also be expected to actively engage in activities and actions that reflect his or her attitude – which is also the driving idea behind all initiators and promoters of green education (Kaiser & Wilson, 2019).

The main idea in understanding the importance of green education is to create positive environmental attitudes and subsequent support and active engagement to engage in certain environmental activities. In this context, one can speak of a reliable positive correlation between people's commitment to environmental protection and their actual acquired knowledge in environmental topics. It should be understood that a student retains more knowledge and understanding of green topics according to the interest and intensity with which he/she approaches the issue (Baierl et al., 2022).

Most primary and secondary schools have a poor awareness of green education and environmental protection. Although the number of environmental courses has increased in recent decades, there is still insufficient attention to this issue. A considerable knowledge deficit is felt both on the part of students and teachers who have inadequate knowledge in the field of environmental protection. Some teachers have difficulties in explaining common environmental pollution phenomena and do not sufficiently understand the causes and methods of prevention. The reason for this lack of knowledge is the absence of environmental education in schools in lesson content plans (Liu et al., 2024).

Figure 1 shows that environmental education has meaningfully enriched the traditional education models (Breiting, 1994; González-Gaudiano, 1997; Novo, 1995 as cited in: Gómez, 2005). Environmental education equipment is quite often highly sensitive to the inherited in emergent problems (globalisation, poverty, biodiversity, peaceful coexistence, sustainable tourism, fragile landscapes, etc.) that require 'new proposals for action' (Xunta de Galicia & UNESCO, 2001 as cited in: Gómez, 2005).

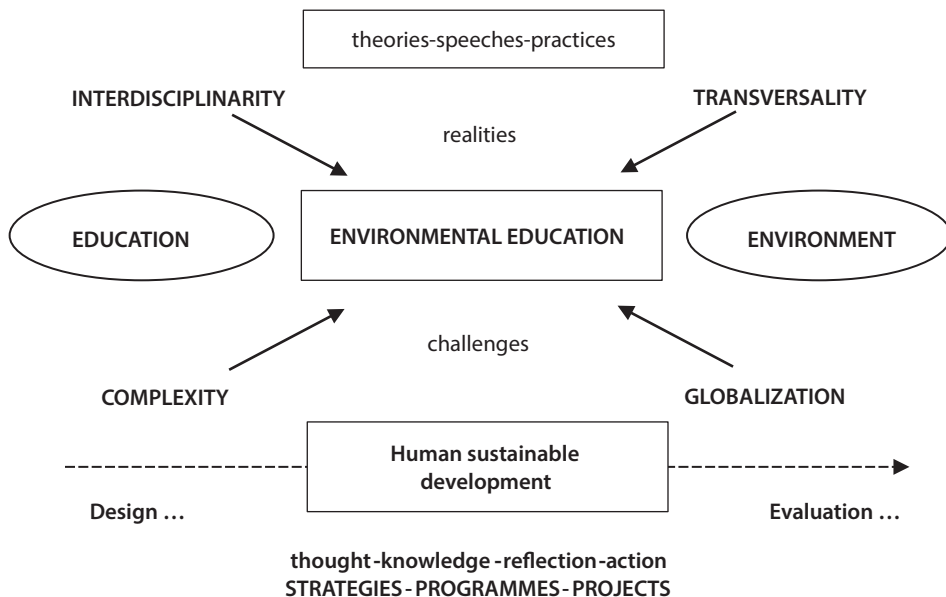


Fig. 2.1. Environmental education: realities and perspectives

Source: (Gómez, 2005).

By integrating environmental topics into the curriculum, students have the opportunity to understand the interaction between human activity and the environment. This promotes their sense of environmental responsibility and provides

a more holistic view of environmental solutions and practices. Through this form of education, individuals become more conscious consumers and are able to actively participate in various initiatives promoting sustainability. In this context, increasing environmental literacy plays a key role in educating the next generation (Yin et al., 2024).

Higher education institutions recognise the fact that they are a key element in society that can contribute meaningfully to sustainability. Educating future generations and advancing research activities are fundamental steps in the transformation of contemporary societies. The goal of green education in universities is young minds that can independently and consciously approach global environmental issues (Al-Nuaimi & Al-Ghambi, 2022).

A large number of international declarations (e.g. Sustainability Initiative for Higher Education, Principles for Responsible Management Education) have been adopted due to the needs and current requirements of sustainable development in internationally recognised programs. It is expected that green-oriented universities will be the driving force to achieve the set goals in international programs in the context of sustainability (Dagiliūtė et al., 2019).

The current requirements of the 2030 Agenda target education and research for achieving the SDGs, in addition to a wide range of areas in the concept of sustainability. However, based on research by Kopnina (2020), there have been significant gaps in the achievement of the set goals, despite increased efforts by many educational institutions. Boarin et al. (2020) found that the vast majority of students consider sustainability to be a key part of their education, despite the wide range of diversity in curricula. However, extensive research conducted by Paço and Lavrador (2017) found that students do not register a relation between attitudes and environmental knowledge and environmentally friendly behaviour. The integration of sustainability needs to be visible in the curriculum of different subjects, as well as, for example, marketing. The issue was addressed more closely by Kemper et al. (2020) who identified marketing disciplines that promote increased consumption as an indicator of success, despite knowledge of increased environmental burdens. Sustainability as a stand-alone subject in the educational process is still finding its proper place, but many elements from this area have already been broken down and included in existing courses. Priyadarshini and Abhilash (2020) stated that almost none of such subjects offer information on sustainability comprehensively.

Sustainability in higher education is a complex concept that includes not only environmental aspects but also ethical and social dimensions. This requires a holistic approach that integrates different areas into a coherent whole, the outcome of which is a generation of future professionals and responsible citizens towards sustainability in the long term (Trevisan et al., 2024).


In order to achieve the sustainability goals, human resource education, especially in the field of management, based on sustainable development and various concepts

of environmental protection, should be implemented exclusively in higher education. It is generally believed that it is higher education that has a key role to play in transforming the study of sustainability and its comprehensive integration into the curriculum. Investing in green education at university level will help to create capable and environmentally oriented leaders in the future, who completed this type of study during college and bring green elements and innovations to business leadership that are in line with current requirements towards sustainability and environmental protection (Obrecht et al., 2022).



2.2. Material and Methods

The aim of the paper, using the mixed methods research, was to present different ways of implementing current challenges and trends into the educational content of future managers at the Faculty of Management and Business, University of Prešov (Slovakia), with an emphasis on its greening. To achieve the objective, the authors used a case study approach (including the analysis of internal documents), and questionnaire survey conducted among internal students of the Faculty of Management and Business, University of Prešov.



2.3. Different Ways of Implementing Current Challenges and Trends Into the Educational Content of Future Managers

The goal of human endeavour is to improve the quality of life in all its various forms and dimensions. The progress of society is evident in its readiness to respond to dynamic changes, unexpected crises, global and local challenges, but above all in its ability to transform them into new opportunities. The content and form of education are inevitably evolving under the influence of these diverse changes that society is undergoing, and it is desirable to respond to these changes in a timely and appropriate manner. Adaptation to new conditions appears to be crucial in all areas of our lives, and especially in the economic sphere, in the work of a manager.

The Faculty of Management and Business of the University of Prešov is one of the largest faculties of economics in Slovakia and has long been preparing future managers who find employment in various economic sectors and in the public sphere. The faculty has been implementing economic-management study programmes since 2004, but the beginnings and the core of its current university education date back to the academic year 1989/1990, when the first university master's degree in management was established in Prešov. Currently, the faculty provides education

in seven accredited study programmes in both full-time and part-time form, in Slovak and in English, in the field of Economics and Management, including three Bachelor study programmes: Management; Business Management and Marketing; and Tourism, Hotel and Spa Industry.

In order to maintain the attractiveness as well as the topicality of the educational content offered, the faculty continuously monitors the quality of the educational process and updates the educational curriculum. These processes include the implementation of new challenges, current requirements and trends in the educational content. Presenting and communicating them to students using new innovative methods and creating an appropriate environment for critical discussion is the basis for understanding them and a prerequisite for mastering them. In practice, the following appear to be appropriate ways of enriching, updating and modernising educational content in this context:

- partial change, updating and addition of necessary current topics to existing courses,
- creation of new courses, extension of existing courses (e.g. elective courses),
- creation of new study programmes.

These methods of innovation in educational content can also be complemented by innovative and participative ways of educating, such as specialist discussions and workshops, but it is also appropriate if they are combined with a direct link between theory and practice, e.g. in the form of specialist excursions, lectures by invited experts and practitioners, case studies, and direct involvement of students in scientific research projects, and linking their seminars and final theses with practice.

We co-create a world in which we face different challenges. The first major challenge for society as a whole, with significant social and economic repercussions, is humanity's response and adaptation to ongoing climate change and its impacts. Issues related to changes in the quality of the environment and its components, resource scarcity and depletion, and energy intensity, comprise a broad spectrum of environmental or sustainability challenges. Given their critical nature, these issues must be swiftly integrated into the educational curriculum of future managers who will be confronted with them in their professional practice.

In response to the problem of sustainability, the faculty is implementing the so-called 'green trends' in the educational content.

We have innovated and continue to upgrade selected subjects to include green themes such as: Corporate Social Responsibility, Green business, Circularity and Sustainability, Waste Management, Green Public Procurement, Renewable Energy Transition, Energy Efficiency etc. For example, currently, within the project KEGA 010PU-4/2023, the University is innovating the content of the subject Entrepreneurship in small and medium-sized enterprises in the context of circularity and sustainability, with an emphasis on family, social and sustainable entrepreneurship.

We are focusing on green-oriented scientific research projects, e.g. the project 'Applied research to improve the acoustic properties of mobile noise barriers and the ecological use of waste generated during their production', within the 'Green Industry Innovation' scheme, whose implementation and results are incorporated and connected with the education process and will enrich the educational curriculum by direct involvement of students in the project (as part of their final thesis and work experience). Students become active co-creators of green solutions (first green effect) in the production process of pro-environmentally oriented noise barrier products (second green effect) with applicability especially in the construction industry. In this way, we are able to provide students with a 'double green' experience and increase their competences in line with current needs and trends.

The educational curriculum will also be enriched by transferring the results directly into the educational process – e.g. by means of case studies or by developing examples of best practices into teaching materials.

The University of Prešov, in an effort to respond to current needs and challenges and at the same time to highlight their importance (also) in the process of education, in 2020 developed and implemented a strategic document *Environmental Sustainability Strategy* in which the first strategic objective is the promotion of environmental education and research. In the document the University declares (among other things) that it will create the conditions for a higher representation of sustainable development topics for all accredited programmes (Environmental Sustainability Strategy of the University of Prešov). The broad and diverse implementation of green themes in the training of future managers, implemented at the Faculty of Management and Business, is fully in line with the vision and goals of the University.

One of the key aspects in the process of greening the educational process is the quality and availability of infrastructural facilities. The availability of material and technical support has a strong accelerating and synergistic effect in the process of improving the quality of education. At the faculty, with the support of the Ministry of Education, Science, Research and Sport of the Slovak Republic, within the framework of the project 'Green Universities', the Centre of Energy Efficiency and Renewable Energy Sources was built with the appropriate computer and technical equipment, a dedicated library, as well as interactive models demonstrating the production of energy from renewable sources; facilities for students were also built.

Another of the current challenges is digitalisation and informatisation towards building a knowledge-based society, presented by issues and topics such as: Working in an online environment; Social networks; e-Commerce; Digital security; Data mining and Artificial Intelligence, Smart solution, etc.

In response to the trends of digitalisation and computerisation, the faculty built a Neuromarketing Laboratory where research on consumer responses to various marketing stimuli is currently underway, using biometric data collection.

The research is carried out with the active participation of students, thus directly enriching the educational process with practical and innovative methods. At the same time, the Neuromarketing Laboratory enables further linking of the faculty and the business sphere and the transfer of knowledge into practice to increase the success and applicability of graduates in business. The faculty also operates a Centre for Technology Transfer and Research Results in cooperation with the Centre for Scientific and Technical Information of the Slovak Republic (CVTI SR), which builds on the work of the Laboratory of Neuromarketing.

The faculty also supports students' orientation and work in the online environment. The face-to-face education is (partially) enriched with the possibilities of online education using classical tools such as Microsoft Teams and LMS Moodle which represent an educational and interactive communication platform, but also serve as a database of professional resources.

The primary objective of educational institutions (and universities in particular) is to properly prepare graduates for the changing labour market. This objective should be borne in mind when designing study programmes, encompassing their content, complexity, but also the choice of appropriate forms and methods of education. The orientation of contemporary education must be towards enhanced training that emphasises practical experiences over theoretical knowledge, incorporates professional practice and enhances the adaptability of graduates.

Responding to the dynamic changes in the labour market, the faculty has a long-standing and very intensive cooperation with practitioners who are associated within the Expert and Business Council which currently has 47 members representing various areas of business, public administration and regional stakeholders. The Council intensively enters into the processes of preparing new study programs, but also comments on the intended changes in the content of education to reflect the needs of the market as much as possible.

In line with the dynamics of the European labour market, other topics such as European trends, internationalisation development and changes in society also need to be addressed. It seems necessary to create space in the educational content also for European topics and to increase the knowledge and competences of students, e.g. in the fields of Orientation in European policies and Mobility and international cooperation, including transfer of best practices from the international environment'. The need for a permanent improvement of language competences, which are crucial in the European area (and beyond), is also still relevant.

In response to these trends, the faculty:

- offers Master's and PhD programmes in English, thus directly supporting students' professional and linguistic competences;
- indirectly supports language training through a wide range of exchange internships and mobility abroad.

As a result of the intensive links between higher education at the faculty and practical needs, constantly expands the almost 70-strong network of Centres for Student Practice, Practical Training and Research Transfer in the Slovak Republic, and a further seven centres of practice located abroad.

Taking advantage of the existing background and in an effort to make the content and forms of education more attractive, we looked for ways to appropriately incorporate current challenges, but especially green and sustainability topics into the educational curriculum.

In our ongoing efforts to emphasise the significance of environmental sustainability within our academic curriculum, the University acknowledged the pivotal role of environmental education in shaping effective management practices. Recognising the essential need to address sustainability issues within the business and management study field, it sought to understand the perspectives and expectations of our students concerning this important subject area.

For this purpose, the University conducted a comprehensive questionnaire among students across various internal programmes. The insights gathered are intended to act as a guide in refining educational strategies to better equip students to address the sustainability challenges and opportunities they will encounter in their professional lives. The following section presents the findings from the survey, offering a detailed analysis of how the University of Prešov students perceive the integration of environmental education into their studies.

2.4. Questionnaire of Students' Preferences in Relation to Sustainability Issues in Education

Students from all study programmes participated in the survey, which included 70 respondents from Management, 79 from Business Management and Marketing, and 26 from Tourism, Hotel, and Spa Industry (Fig. 2.2). Regarding their year of study,

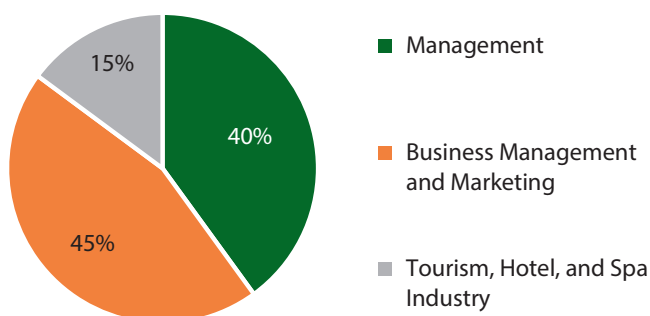


Fig. 2.2. Distribution of the students according to study programmes

Source: own survey.

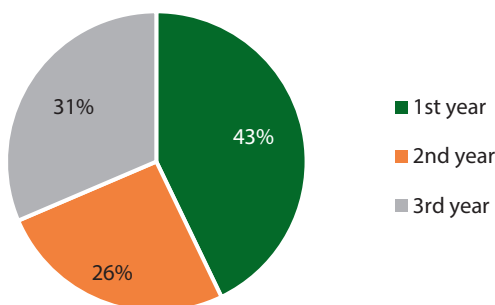


Fig. 2.3. Distribution of the students according to the year of study

Source: own survey.

the distribution of participants was as follows: 75 from the first year, 45 from the second year, and 55 from the third year (Fig. 2.3).

Q1: Interest in Environment and Sustainability

The majority of students expressed a positive interest in environmental and sustainability topics, with 62.2% (13.1% strongly agreeing and 49.1% agreeing) indicating their interest. This suggests a favourable disposition towards these subjects among the student body. However, a significant portion, 31.4%, remained neutral, which might imply a lack of strong feelings towards the topic or a potential area where more engaging content could spark further interest. The combined disagreement rate is low, at 6.2% (5.1% disagreeing and 1.1% strongly disagreeing), indicating that outright disinterest is minimal.

Q2: Active Information Seeking on Environment and Sustainability

Responses to this question revealed a more passive stance, with only 30.9% (6.3% strongly agreeing and 24.6% agreeing) actively seeking information on these topics. A significant number of students, 46.3%, neither agreed nor disagreed, suggesting ambivalence or a lack of motivation to seek out information actively. The combined disagreement rate, at 22.9% (18.9% disagreeing and 4% strongly disagreeing), was higher than in the first question, indicating a more substantial barrier to active engagement.

These findings highlight an opportunity to increase students' engagement with environmental and sustainability topics. The high percentage of neutrality and disagreement suggests that students may not be sufficiently motivated to seek out information on their own. This could be due to several factors, such as perceived irrelevance of the information to their personal or professional interests, lack of awareness of available resources, or the perceived complexity of the topics.

To address this, educational strategies should include:

- **integrating more hands-on activities:** practical applications and real-world problem-solving sessions can make the relevance of sustainability more apparent;
- **enhancing resource accessibility:** making resources more accessible and actively promoting them can help reduce the effort students need to put in to find relevant information;
- **incorporating sustainability into core curricula:** embedding sustainability topics into the core curricula of all related programmes could ensure that students perceive these issues as integral to their fields of study, not just optional or supplementary;
- **motivational initiatives:** workshops, guest lectures, and motivating sustainability challenges or projects could enhance interest and make learning about environmental issues more engaging.

Q3: Exposure to Sustainability in Studies

A majority of the students (56.6% combined: 12% strongly agree, 44.6% agree) indicate that they have encountered sustainability topics in their studies. However, there was a notable number (20.5% combined: 17.1% disagree, 3.4% strongly disagree) that feels sustainability is not sufficiently covered, suggesting potential gaps in the integration of these topics within the curriculum. Another 22.9% remained neutral, which could indicate either a sporadic integration of sustainability topics or an uncertainty about what constitutes adequate coverage.

Q4: Desire for More Integration of Sustainability Themes

A significant majority (59.8% combined: 19% strongly agree, 40.8% agree) expressed the desire for more integration of sustainability themes into the educational process. This suggests that while sustainability is being addressed to some extent, students feel there is room for deeper and more comprehensive coverage. The 30.5% neutrality here might reflect students' uncertainty about how this integration should be implemented or a satisfaction with the current level.

Q5: Need for More Discussion of Sustainability Issues

A strong consensus (66.7% combined: 22.4% strongly agree, 44.3% agree) supported the need for more discussions on sustainability issues in the classroom. This indicates a clear demand for an increased focus on interactive and discussion-based learning methods regarding sustainability, which can help in understanding complex issues more deeply and developing critical thinking. To increase discussion of sustainability issues, which a significant majority of students see as necessary, the following

strategies can be considered: structured debates and discussion panels, case studies, interactive workshops, guest lectures from industry professionals, etc.

Q6: Need for Practical Examples of Sustainable Measures

The majority (75.4% combined: 25.7% strongly agree, 49.7% agree) advocated the presentation of practical examples of the implementation of green and sustainable measures in the classroom. This response highlights a gap between theoretical knowledge and practical application, suggesting that students seek for real-world examples to better understand how sustainability principles are applied in practice. To better integrate practical examples of sustainability in the classroom, one can adopt the following approaches: field trips and real-world observations, project-based learning, partnerships with local businesses, design thinking projects focused on sustainability etc.

Q7: Adequacy of Space Devoted to Sustainability in Business

Responses to this question showed that only 41.8% (10.9% strongly agree, 30.9% agree) felt that adequate space is devoted to sustainable approaches in business within the educational process. A significant 40% are neutral, and 18.3% (15.4% disagree, 2.9% strongly disagree) disagree with the adequacy of the coverage, indicating that many students perceive a lack of sufficient focus on how sustainability can be integrated into business practices.

Q8: Necessity of Environmental Knowledge and Skills in the Labour Market

The responses to question 8 showed that a significant majority of students (58.6% combined: 10.9% strongly agreeing and 47.7% agreeing) believed that including sustainability topics in their education will better position them in the labour market. This is a strong indicator of the perceived value of sustainability knowledge and skills in their future careers. Meanwhile, a considerable 33.3% are neutral, possibly indicating uncertainty about how sustainability directly affects their career prospects, while only a small fraction (8.1% combined: 7.5% disagreeing and 0.6% strongly disagreeing) see little or no value in this integration.

This reflects the growing importance that employers place on environmental awareness and sustainability skills. Businesses are increasingly driven to adopt sustainable practices not only due to regulatory requirements but also because of economic incentives like cost reduction through efficient resource use, consumer demand for green products, and the competitive advantage that innovation in sustainability can offer. Employers are actively seeking individuals who are not only

aware of these issues but also capable of implementing sustainable solutions that align with corporate responsibility goals and improve operational efficiency. One example of the current challenges is the EU's Corporate Sustainability Reporting Directive (CSRD) (Directive (EU) 2022/2464) – a fundamental pillar of the broad 'EU Green Deal' – which requires mandatory ESG (environment, social, governance) reporting for certain companies that do business in the EU. This industry shift underlines the need for educational institutions to further integrate sustainability into their curricula, equipping students with practical skills and knowledge that directly address the current and future needs of the labour market. Enhancing the curriculum with more practical examples, discussions, and comprehensive content on sustainable practices will better prepare students for successful careers in this evolving business environment.

Q9: Necessity of a Sustainable Approach in Business

The findings from question 9 showed clearly that students consider sustainability encompassing resource conservation, environmental quality maintenance, and waste minimisation as essential in business, with 85.2% either agreeing or strongly agreeing. This strong endorsement reflects a significant shift in the mind-set of future professionals towards recognising environmental responsibility as a fundamental aspect of modern business practices. The minimal dissent observed, with only 2.3% combined disagreeing or strongly disagreeing, stressed a broad consensus on the importance of sustainability, highlighting its acceptance as a core component of business operations. Meanwhile, the 12.6% of students who neither agreed nor disagreed may indicate a lack of full understanding of sustainability's practical impacts or its relevance to their future careers, suggesting an area where further educational focus could be beneficial.

This consensus is aligned with global business trends where sustainable practices are increasingly demanded by regulatory bodies, favoured by consumers, and beneficial for operational efficiency and attracting investment. Businesses are integrating sustainability not only to comply with regulations but also to capitalise on the growing consumer preference for eco-friendly products and to enhance operational efficiencies that reduce costs. Moreover, sustainability-oriented companies are likely to attract investments focused on long-term viability and ethical considerations. These findings suggest a need for educational institutions to further embed sustainability across all business-related disciplines, preparing students to flourish in a business environment where sustainability is no longer optional but imperative. A graphical summary of the questionnaire results can be found in Fig. 2.4.

The survey conducted among Faculty of Management and Business students highlighted a strong recognition of the importance of integrating sustainability into their academic curriculum, resonating with global educational trends. The majority

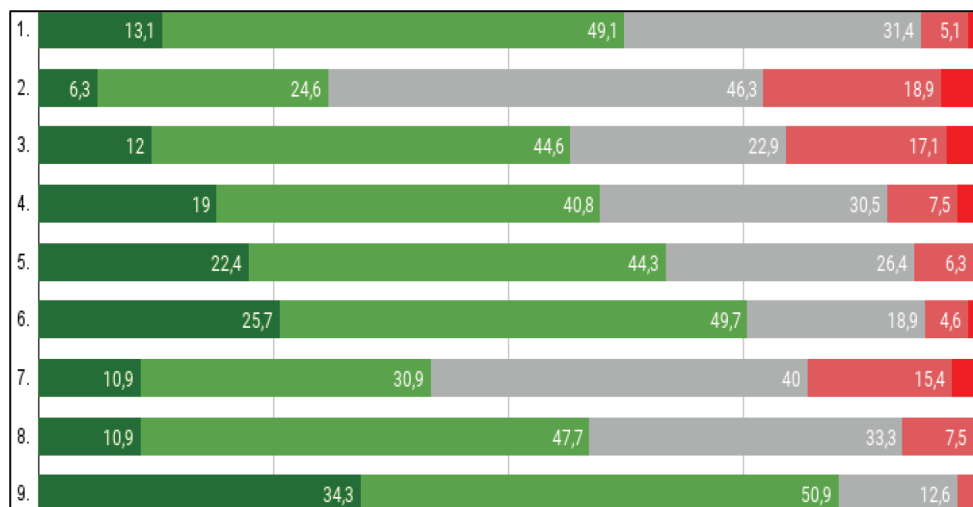


Fig. 2.4. Summary of the questionnaire results

Source: own survey.

of students not only acknowledge the necessity of embedding sustainability themes into their studies but also express a desire for more discussions, practical examples, and comprehensive coverage of sustainability in business practices. This mirrors findings from similar studies, such as those by Bagley et al. (2020), which found that students in business schools show a high interest in sustainability courses that offer practical applications. Moreover, Claro and Esteves (2021) stressed the growing demand among students for curricula that reflect the realities of a sustainability-oriented job market. The overwhelmingly positive affirmation of the importance of sustainability in business from the respondents, was also in line with trends reported in the global corporate sector, where sustainability is increasingly crucial for regulatory compliance, consumer preference, operational efficiency, and investment attraction (Ramanathan et al., 2017; Taghikhah et al., 2019). This feedback is invaluable for academic institutions, prompting them to refine their programmes and ensure that sustainability is not only integrated into educational processes but also serves as a fundamental component in shaping future leaders equipped to implement sustainable solutions in their professional careers.

Reflecting on the results of the survey, The University's efforts have been directed towards the creation of a new competitive curriculum and continuity in the incorporation of green themes into education.

The University considers the creation of a new study programme 'Green Economy...' (the working title at that time) to be the strongest response to the modern problems

and trends. This study programme addresses the aforementioned current challenges in a comprehensive way and offers the profiling of a graduate-manager able to respond adequately to the given challenges in a professional manner. The presented innovative study programme responds to the societal need for professional training in the field of economic aspects in environmental management at the first level of higher education. It is based on the updated concept of the study field of economics and management, while complementing the core topics of the core knowledge with the professional topics of economics and environmental management. The newly created curriculum offers innovative educational content combined with participatory ways and approaches to learning. The study programme focuses on:

- changing traditional forms of education (creative techniques, participatory techniques, hands-on learning, workshops, discussions, etc.);
- innovating the content of education, curriculum reflecting current, sustainable and green trends;
- enhancing stronger interconnection with practice (field experiences, expert-led lectures, global internship, business/industry embedded final thesis, etc.).

As a result of these efforts, after graduating from the 'Green Economy...', a graduate-manager will be equipped with a sustainability (economic-managerial) knowledge base, built by a diverse combination of approaches and techniques, but also possessing the necessary knowledge in the field of green issues and sustainability.



2.5. Conclusions

In this paper explored various strategies for implementing new (especially green) trends into the educational content. The authors believe that this will equip future managers to face new challenges effectively and respond adeptly. The current times may seem unfavourable for universities due to the emergence of new problems. Therefore, there is an imperative need for rapid and adequate response to these changes, which should be manifested in their recognition, acceptance and in their transformation into opportunities. High-quality content education is the most important way of responding to current challenges, enabling the University to adapt more effectively to the changes underway.

Acknowledgements. This paper was developed as part of the following projects: KEGA 010PU-4/2023 Innovation of the Course Entrepreneurship in Small and Medium-Sized Enterprises in the Context of Sustainability and Circularity and KEGA 024PU-4/2023 Preparation of an Innovative Study Programme in Green Economy in the Field of Economics and Management.

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CHAPTER 3

The Role of the Academic Coordination Centre in the Euroregion Nisa in the Implementation of Sustainable Development

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Quote as: Gryszel, P. & Zaremba-Warnke, S. (2024). The Role of the Academic Coordination Centre in the Euroregion Nisa in the Implementation of Sustainable Development. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 49-58). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.03](https://doi.org/10.15611/2024.92.5.03)

Abstract: The purpose of the chapter is to characterise the Academic Coordination Centre (ACC) in the Euroregion Nisa and its role in achieving the sustainable development goals (SDGs). The chapter presents a unique initiative taken up by higher education institutions, i.e. the association of universities from Poland, Czechia and Germany, which have been operating in the Euroregion Nisa since 1992, and describes selected activities carried out by the ACC contributing to the implementation of sustainable development (among others cross-border projects focused on sustainable development, ACC Forum and the annual Young Scientists Conference of the ACC).

Keywords: sustainable development goals (SDGs), education for sustainable development (ESD), higher education institutions, Academic Coordination Centre in the Euroregion Nisa (ACC)



3.1. Introduction

Due to the global problems of the modern world, all socio-economic actors should contribute to the implementation of Sustainable Development Goals (SDGs) (Płachciak & Zaremba-Warnke, 2021, pp. 117, 118; Rogall, 2010, pp. 164-170; Yadav et al., 2022, p. 417).

Higher education institutions play a special role in this regard, as they educate future decision-makers. According to Education for Sustainable Development (ESD),

university graduates should be socially responsible in order to care for and be able to implement the SDGs in their professional and private lives (Kryk, 2011, pp. 314, 315; Lorek et al., 2023, pp. 120-123; Sammalisto & Arvidsson, 2005, pp. 18-20). In addition, higher education institutions should act incubators enhancing innovative solutions for the purposes of SDGs, especially in their local and regional environment, in line with the Agenda 21 motto *Think globally, act locally*. The global dimension of the idea of sustainable development (SD) also requires actions across territorial borders, which is particularly evident in Euroregions and similar border structures (United Nations, 1992; Yadav et al., 2022, p. 428).

One of the main challenges faced by education for sustainable development (ESD) in higher education institutions is to develop and put into practice effective educational activities. Effective ESD, in addition to imparting holistic knowledge of the socio-economic-ecological correlations in the modern world, also results in changing behaviour towards sustainability. This requires lecturers to use attractive forms of teaching, appeal to emotions, broaden awareness, ability to teach critical thinking and complex problem solving, encourage 'learning by doing' and 'learning by playing', set examples with their behaviour, and convey to students and other actors in the environment that sustainability is a common global goal which transcends regional or national borders (Borys, 2010, pp. 25-40; Brečka et al., 2022, pp. 727-729; Ernst et al., 2017, pp. 150-153; Ferreira et al., 2013, pp. 2, 3; Ibitoye & Ilesanmi, 2019, pp. 66-72; Marcinkowski, 2010, pp. 47-50). Therefore, effective educational activities aimed at SD often require additional funding and/or expanding beyond the functioning of a single higher education institution. In such cases, it is very helpful for these institutions to form associations that enhance collaboration and an implementation of diverse projects, which was the reason for tackling the problem.

The purpose of the chapter was to characterise the Academic Coordination Centre in the Euroregion Neiße-Nisa-Nysa and its role in the implementation of SD goals along the border region.

The chapter drew on the personal observations made by the authors – ACC coordinators at Wrocław University of Economics and Business who have been active in ACC and for the benefit of SD in the border region for more than two decades.

3.2. The Academic Coordination Centre in the Euroregion Nisa

The association of higher education institutions under the name of the Academic Coordination Centre (ACC) in the Euroregion Nisa was established in 1991 to coordinate both educational and scientific activities performed by the teaching and research staff at higher education institutions which operate in the Czech-Polish-German border area in the Euroregion Nisa.

The following higher education institutions are affiliated with the ACC:

- Technická Univerzita v Liberci (Technical University of Liberec),
- Hochschule Zittau/Görlitz (Zittau/Görlitz University of Applied Sciences),
- Internationales Hochschulinstitut Zittau (International Institute (IHI) Zittau),
- Uniwersytet Ekonomiczny we Wrocławiu, Filia w Jeleniej Górze (Wrocław University of Economics and Business, Branch in Jelenia Góra),
- Karkonoska Akademia Nauk Stosowanych w Jeleniej Górze (The Karkonosze University of Applied Sciences in Jelenia Góra),
- Politechnika Wrocławska, Filia w Jeleniej Górze (Wrocław University of Science and Technology, Branch in Jelenia Góra),
- Berufsakademie Bautzen (Vocational College Bautzen).

The ACC has its own website and logo (Academic Coordination Centre in the Euroregion Nisa [ACC], n.d.).

The Centre's activities were initiated by Professor Rudolf Anděl (Technical University of Liberec) and Professor Peter Schmidt (Zittau/Görlitz University of Applied Sciences) when, after the political changes, it became apparent that cooperation between these universities at the meeting point of three countries was almost non-existent. Initially, the main purpose of the ACC was to conduct joint research and publish the results in a scientific journal, *Wissenschaftliche Abhandlungen* [Scientific Papers], issued in 1995-2008, which became the English-language *ACC Journal* in 2009 (<https://acc-ern.tul.cz/de/acc-journal>).

The goals of the ACC functioning have evolved over the years. At present, the activities of the Academic Coordination Centre are mainly focused on coordinating international scientific and research projects in the Euroregion Nisa (ERN). The ACC, through its activities, primarily supports cooperation between the institutions of partner universities in the field of teaching as well as scientific and research pursuits, and also cooperates with the socio-economic environment. The ACC also endeavours to establish contacts in the sphere of services with the institutions operating outside the Euroregion Nisa. The ACC creates a platform for the exchange of information and experience in the field of science and research. By organizing international conferences for undergraduate students, PhD students and researchers, workshops and competitions, it activates and motivates students and the academic staff to take a creative approach towards solving research tasks. As part of these activities, it enables the transfer of intercultural and multilingual competencies in addition to supporting the mobility of students and researchers (<https://acc-ern.tul.cz/>).

The ACC also played an important role in establishing such cross-border higher education centres as the Internationales Hochschulinstituts in Zittau (International Institute (IHI) Zittau) (in 1993), Neisse University (in 2000) and the Tschechisch-sächsischen Hochschulzentrums (Saxon-Czech University Initiative) in Chemnitz (in 2003).

The ACC coordinators, appointed at each partner university, meet at least several times per year. The Rector's Representative for the ACC has also been appointed at Wrocław University of Economics and Business. The ACC Presidium, which is the highest body of the Centre, is held once a year. The ACC presidency lasts three years and rotates among the ACC universities. The Presidium members include university statutory representatives or their deputies and other persons in an advisory capacity, including the ACC coordinators. The ACC low operating costs are included in the budgets of individual universities. Since 2007, the ACC activities have been coordinated by Helena Neumannová PhD – the ACC coordinator and head of the Department of Foreign Languages at the Technical University of Liberec.

3.3. Selected Activities of the ACC for Sustainable Development

Polish-Czech Projects Focused on Sustainable Development

The implementation of joint teaching and research projects remains one of the ACC's main areas of activity. Since the beginning of the ACC, numerous projects have been implemented and more are planned. The Academic Coordination Centre facilitates university staff to establish cooperation with relevant foreign partners and to apply for funding to carry out various national and international projects. Interreg V-A Czech Republic-Poland is the most frequently used programme, and primarily the Microproject Fund of the Euroregion Nisa. The Interreg Programme takes into account the specific location of the beneficiaries in the border area, whereas support for the sustainable development of the border region is one of the criteria for obtaining funding from the Interreg Programme. Thus, the projects implemented either directly or indirectly are focused on sustainable development of the border region.

The Polish-Czech project 'Cooperation of Higher Education Institutions for Sustainable Development at the Polish-Czech Borderland' is an example of a project directly related to SDG implementation. The project was co-financed from the funds of the Interreg V-A Czech Republic-Poland Programme 2014-2020 (Microproject Fund of the Euroregion Nisa); its Czech part was implemented from 1.10.2016 to 31.07.2017, whilst the Polish part from 27.04.2017 to 26.04.2018. The total value of the project was 30,000 Euro. As a result of the project implementation, students of the Faculty of Economics at the Technical University of Liberec and the Faculty of Economics, Management and Tourism in Jelenia Góra Branch of Wrocław University of Economics and Business expanded their economic knowledge of sustainable management in regional SMEs (mainly agricultural and in agrotourism) and also intercultural knowledge, with particular emphasis on practical aspects. Students and

research supervisors conducted research on the status of sustainable management in several dozen SMEs in the Polish-Czech border region. The research results were presented during:

- 1) the scientific seminar in Chrastava and Liberec 'Border Region – Opportunity for Entrepreneurship' on 27-28.04.2017,
- 2) the scientific seminar in Jelenia Góra 'Regional Enterprises and Sustainable Development' on 7.11.2017,
- 3) the scientific conference ending the project, held on 19.04.2018 in Jelenia Góra, 'Sustainable Development of the SME Sector at the Polish-Czech Borderland'.

The seminars and conferences were also attended by representatives of the business sector, local government organizations and NGOs from the Polish-Czech border region. Two workshops were also organized for students in Czechia and Poland, covering: quality and environmental management, sustainable management, sustainable consumption and production, environmental financing, SD indicators, sustainable marketing in enterprises, six study visits to six regional enterprises, and a visit to an NGO supporting sustainable development in the region.

The project was summarised in a bilingual (Polish-Czech) scientific monograph *Sustainable Development of the Polish-Czech Border Region – Examples from the SME Sector*, and presented the research results conducted within the framework of the project. Academics, undergraduate students, PhD students, employees of NGOs and SMEs operating within the Polish-Czech border region were the authors of individual chapters published in the monograph.

The project activities were carried out as part of the Eco-business course taught within the specialisation of Quality and Environmental Manager at the Department of Quality and Environmental Management, and constituted an alternative form of obtaining the course credit, exceptionally highly rated by students in their evaluation surveys. Moreover, the students participating in the project demonstrated a higher level of knowledge about sustainable development compared to other student groups. This form of teaching was a developing and extremely rewarding experience for the lecturers as well, and resulted in undertaking further projects for sustainable development.

An example of a project indirectly related to SD problems, also subsidised from the Interreg Programme, was the project 'Assessment of Services and Competitiveness of Tourist Regions in the Czech-Polish Borderland', implemented from 1.07.2018 to 30.04.2019. The Faculty of Economics at the Technical University of Liberec and the Faculty of Economics, Management and Tourism in Jelenia Góra Branch of Wrocław University of Economics and Business cooperated as partners in the project implementation. The Czech partner was simultaneously working on the project 'Analýza služeb v cestovním ruchu v česko-polském pohraničí'. The project implementers followed the assumption that the development of the tourist economy

has a particular impact on the sustainable development of a cross-border region such as the Euroregion Nisa.

Both projects aimed at analysing tourist services offered in the Polish-Czech border area and providing the collected information to tourist information centres, tourism entrepreneurs and local government units in both regions.

The projects covered the following activities.

1. A study visit of Polish students to Liberec, visiting the Faculty of Economics at the Technical University of Liberec (4-5.12.2018) and major tourist attractions in the area, and a trip of Czech students to Jelenia Gora (29.10.2018).
2. Marketing research of the offered tourist services in the Polish and Czech parts of the Euroregion Nisa.
3. Joint conferences of students in Poland and in Czechia. Presentation of the competitiveness study results covering tourist services from the Polish-Czech area of the Euroregion Nisa as well as comparing these results with other regions of Poland and Czechia by inviting students of tourism courses from other universities (in Poland 21-22.03.2019 and in Czechia 4-5.04.2019).

The conclusion of both projects was the publication of two numbers of journal with articles presenting research results on the competitiveness of tourism services in the Polish-Czech borderland.

As a continuation of joint project activities, in 2021 Liberec Technical University submitted another application to the Visegrád Fund entitled 'Services in Tourism in the Czech-Polish Border Area'. The project was implemented throughout 2022 and covered the following activities:

- 1) student seminar related to the impact of the COVID-19 pandemic on tourism in border regions (11.01.2022),
- 2) study visit of Czech students to Jelenia Gora (6.05.2022), during which they were introduced to the tourist attractions of the region,
- 3) a similar study visit of Polish students to Liberec (12.05.2022),
- 4) a student-led conference 'Services in Tourism in the Czech-Polish Border Area'.

In addition, as part of the project, the analysis of tourist traffic in the Czech-Polish border area was conducted. The results of this research were presented to the local tourist organization meeting in the Jizera Mountains, and on that basis a strategy for the development of the range of tourist attractions in the Jizera Mountains was prepared.

The ACC Forum

The ACC Forum is organized every two-three years, in turn, by individual ACC partner universities. The ACC Forum always includes an international conference on the development of the Euroregion Nisa, which is frequently accompanied by other activities dedicated to academics, undergraduate students and PhD students.

For example, in 2023, the ACC Forum, in addition to the international conference, included the ACC Young Scientists Conference and four Autumn Schools for students from ACC schools funded, among others, by the Erasmus+ BIP programme (Technische Universität Dresden, n.d.). The problems covered by two Autumn Schools (i.e. Regionality and Sustainability, and Biodiversity Management) were directly related to the implementation of SDG goals in border enterprises.

Around 90 students from the ACC's six partner universities took part in the ACC Forum. In addition, there were 13 different conference sessions discussing six thematic conference groups, during which more than 40 presentations were delivered. Lively discussions and networking took place, which will help continue promoting research about sustainable development in the Euroregion Nisa (Technische Universität Dresden, 2023).

The ACC Conference of Young Scientists

For the past 17 years the ACC has been holding the annual ACC Young Scientists Conference dedicated to undergraduate and postgraduate students from the ACC universities. The language of the conference is English. Young scientists present there results of their research, ongoing projects and the activities of scientific clubs. Many of the discussed issues are related to sustainable development of the region, corporate social responsibility and sustainable management. The best papers are published in the ACC Journal. The conference provides a platform for the exchange of knowledge and contacts between academics and students. Lunch and coffee breaks during the conference are arranged based on regional products and catering services of small, family-owned companies. However, since Wrocław University of Economics and Business joined the Fair Trade Friendly University campaign (27.01.2023), Fair Trade certified products (coffee, tea, nuts, chocolates and pastries) are served during coffee breaks. The Jelenia Góra Branch is the first of all ACC universities to earn the title of Fair Trade Friendly University. As part of the next ACC-Forum in May 2025, activities are planned to promote the Fair Trade movement in all ACC higher education institutions.

Trilateral Projects and Projects Beyond the Area of the Euroregion Nisa

The meetings of ACC coordinators and international conferences organized by the ACC act as multipliers in the implementation of trinational (Polish-Czech-German) projects in the Euroregion Nisa and others beyond the trilateral border region.

The project 'Regional Value Chains in the Context of Ecosystem Services and Biodiversity – Based on the Example of the Czech-Polish-Saxon Project Collaboration' can serve as an example. This involved partners from Czechia, Germany and Poland, including among others: NETSCI Professor Kramer GmbH, Faculty of Economics, Management and Tourism in Jelenia Góra Branch of Wrocław University of Economics

and Business, Jan Evangelista Purkyně University in Ústí nad Labem, LANU (Saxon Foundation for Nature). The project was supported by DBU (German Federal Foundation for Environment). The main objective of the project was to support economic development in the border areas of the three countries: Czechia, Poland and Germany, by the empowerment of the value chains, including ecosystem services. This form of cooperation brings many economic benefits not only for the individual companies participating in the project, but also for the entire border region, including natural environment. A catalogue of indicators developed during the project provided enterprises with knowledge about their interactions with ecosystems, which helped them to specify steps towards their development and to inform customers about an appropriate way to go about the values of ecosystem services (Zaremba-Warnke, 2016, pp. 57-60).

In addition, the ACC activities include the development of cooperation with Matej Bel University in Banská Bystrica (Slovakia), continued for nearly 40 years. The Department of Tourism at Matej Bel University and the Department of Marketing and Tourism Management at Wrocław University of Economics and Business conduct research covering common scientific areas, manifested in the form of scientific publications in, e.g. the journal *Ekonomická Revue Cestovného Ruchu*, participation in the conferences organized, and exchange visits of students and academics.

A similar scope of cooperation is carried out with the Silesian University in Opava and its Department of Tourism and Recreation based in Karviná. As part of this cooperation, an annual scientific conference 'Current Trends in Spas, Hospitality, and Tourism' is organized on a rotational basis. The 12th edition of this conference was held in Slovakia in 2024. The partners participating in the conference organization are the Silesian University in Opava, Matej Bel University in Banská Bystrica, University College Prague in Prague and Wrocław University of Economics and Business.



3.4. Conclusions

The establishment of the Euroregion Nisa as the first Euroregion in Poland has resulted in rapid development of cross-border cooperation. The region, affected by environmental disasters in the late 20th century, remains a prominent example of the importance of sustainable development. The great scientific potential inherent in the staff of universities located in the area of Euroregion Nisa, has resulted in the development of cooperation in the form of the Academic Coordination Centre.

Research topics related to sustainable development have been among the most important ones since the ACC establishment, which allowed the ongoing development of research cooperation between the scientific and teaching staff of the

Faculty of Economics at the Technical University of Liberec and Wrocław University of Economics and Business (Jelenia Góra Branch), as well as other higher education institutions functioning in the Euroregion Nisa.

Cooperation of borderland universities within the ACC facilitates exchanging know-how among research and teaching staff, finding a partner in research and teaching projects, and intensifies international mobility of students and academic staff, e.g. within the framework of the Erasmus Programme.

The ACC activities strengthen cooperation not only between universities, but also between universities and the socio-economic environment in the region. Owing to the conducted scientific research, the projects and the organised conferences, it is possible to constantly draw attention of borderland enterprises to the problems of sustainable management. This primarily refers to companies operating in the tourism industry, where sustainability and sustainable management play a particularly important role.

Students entering the job market also greatly benefit from the ACC cross-border university cooperation. The competencies gained through participation in the ACC projects, conferences and other events, facilitate students' exposure to business practice and demonstrate the potential for developing their own sustainable entrepreneurship. This should motivate students to stay in the region after graduation. In addition, contacts with a neighbouring country enable students to expand their intercultural skills.

It can be concluded that the ACC contributes to the implementation of the SDGs in the Euroregion Nisa and, in particular, facilitates the goals of education for sustainable development.

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CHAPTER 4

A Step Towards Stopping the Food Waste Pandemic. The Case of Poland, Slovakia and Czechia

Agnieszka Piekara

Quote as: Piekara, A. (2024). A Step Towards Stopping the Food Waste Pandemic. The Case of Poland, Slovakia and Czechia. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 59-67). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.04](https://doi.org/10.15611/2024.92.5.04)

Abstract: In recent years, the awareness surrounding food waste all over Europe, including Poland, Czechia, and Slovakia, has grown, prompting increased efforts to address this issue. The chapter provides an overview of the food waste and loss landscape in these countries, shedding light on the scale of the problem, its underlying causes, and the initiatives undertaken to combat it. By understanding each country's challenges and opportunities, stakeholders can develop targeted strategies to minimise food waste and promote more sustainable food systems.

Keywords: food waste, food loss, food waste pandemic, food waste in CEE countries



4.1. Introduction

Food waste is one of the most important research topics in recent years, as proved by the number of scientific articles published over the last few years. In the period 2010-2023, the Scopus database included 9307 research articles, one of the keywords of which was food waste (research query keyword: 'food waste', Scopus database search: March 2024) (Fig. 4.1). Moreover, the number of these publications has increased rapidly.

When limiting the data to studies covering Poland, Slovakia or Czechia, the total number of studies since 2010 is only 763 (search within the results: Poland OR Polish or Slovakia OR Czech*). Food waste is a pressing global issue with significant

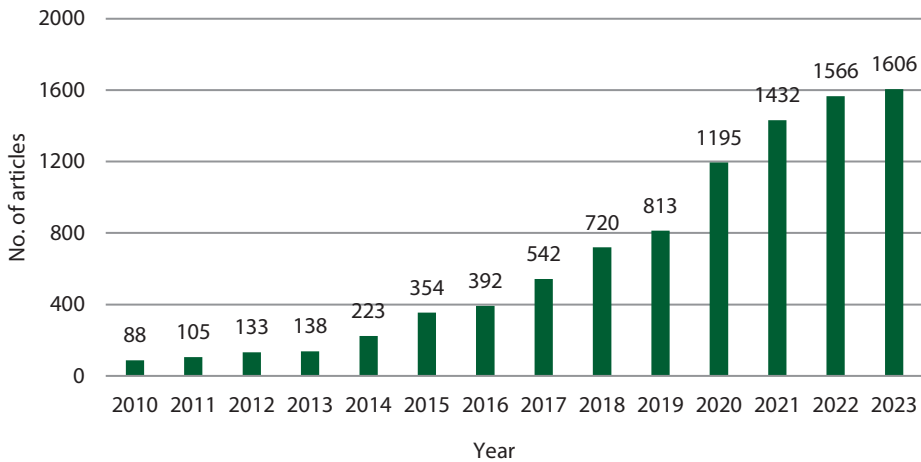


Fig. 4.1. Number of articles in the Scopus database from 2010 to 2023

Source: own study based on Scopus database search: March 2024; research query KEYWORD: 'food waste'; for 2010-2023.

environmental, economic, and social consequences (Papargyropoulou et al., 2014; Trivedi et al., 2023). In recent years there has been increasing recognition of the need to address food waste at national and international levels. As members of the European Union, Poland, Czechia, and Slovakia are no exception to this challenge. However, it should be pointed out that, in general, there are two components: food loss and food waste (Fig. 4.2).

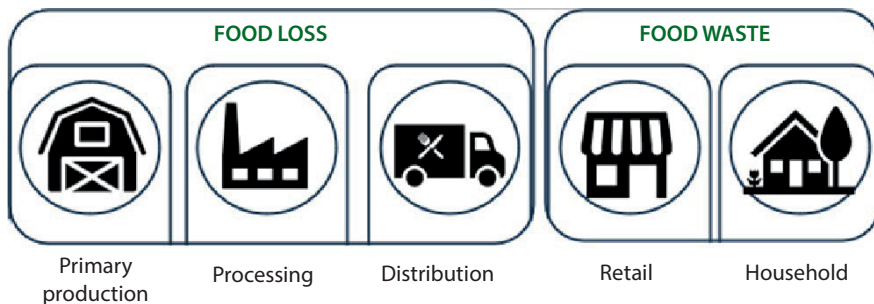


Fig. 4.2. Food loss and food waste across the food chain

Source: own work based on (Ishangulyyev et al., 2019).

The terms 'food loss' and 'food waste' were defined by The Food and Agriculture Organization of the United Nations (FAO, 2013) as well as by the European Commission (2024) as follows:

FAO:

Food loss: decrease in weight (dry matter) or quality (nutritional value) of food that was originally produced for human consumption.

Food waste: food appropriate for human consumption being discarded, whether after it is left to spoil or kept beyond its expiry date.

EC:

Food loss: a decrease in the quantity or quality of food resulting from decisions and actions by food suppliers (i.e. before or during food production and processing).

Food waste: a decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers (EC, 2024).

The chapter compared levels of food waste and the reasons for it in Poland, Czechia, and Slovakia. By understanding each country's challenges and opportunities, stakeholders can develop targeted strategies to minimise food waste and promote more sustainable food systems.

4.2. The Level of Food Waste

Despite being relatively prosperous nations, each of these countries faces unique circumstances influencing food consumption, production, and waste management practices. According to data gathered and published by Eurostat, around 131 kg of food waste per inhabitant was generated in the EU in 2021 (Eurostat, n.d.). A positive aspect is undoubtedly that the level of waste per person in each of the three countries was lower than the EU average (Table 4.1). A close look at the data indicates which areas most urgently require intervention.

Table 4.1. Food waste by sector of activities, 2021 (tonnes of fresh mass)

Region	Total food waste	Primary production	Processing and manufacturing	Retail and other distribution of food	Restaurants and food services	Households
EU ⁽¹⁾	58 400 000	5 100 000	12 400 000	4 200 000	5 400 000	31 300 000
Czechia ⁽¹⁾	972 445	27 022	100 339	64 394	37 941	742 749
Poland	4 281 212	639 352	809 287	345 514	186 433	2 300 626
Slovakia	537 486	23 764	125 013	17 630	8 988	362 091

⁽¹⁾ 2021 data not reported, 2020 data presented; food waste and food waste prevention – estimates; excluding food losses (food not harvested or food not authorised to be marketed for safety reasons), for the year 2021.

Source: (Eurostat, n.d.).

The most significant differences occur in the categories 'primary production' and 'processing and manufacturing', where the highest value was recorded for Poland and the lowest for Czechia. It is obvious that, due to the arable area, Poland (Table 4.2) has the most prominent primary production among these countries. Hence, Poland recorded the highest overall amount of food losses in the primary production category. However, the data regarding the manufacturing sector are interesting, with Czechia recording a very low result per capita (Table 4.2). Note that the number of food preservation and production facilities in Czechia and Slovakia is smaller than in Poland. It would be worth examining whether the observation made by Eurostat is due to the number of facilities or whether their type has a more significant influence (e.g. the grain and milling sector is considered to generate the slightest losses, while the meat or dairy processing sector is much larger), as well as what level of implementation of modern technological solutions aimed at reducing losses exists.

Table 4.2. Food waste by sector of activities in 2021 (kilograms per inhabitant)

Region	Arable area sq km*	Total food waste	Primary production, processing and manufacturing	Processing and manufacturing	Households	Retail and other distribution of food, restaurants and food services
EU (1)		131	39	–	70	22
Poland (1)	144 995	113	38	21.5	61	14
Slovakia (1)	18 560	99	27	23	66	5
Czechia (1)	35 298	91	12	9.5	69	10

(1) 2021 data not reported, 2020 data presented; * according to the World Bank (<https://tradingeconomics.com/>).

Source: (Eurostat, n.d.).

Waste levels in retail and other food distribution, restaurants, and food services also vary and can be a subject of further analysis. Buzby et al. (2015) listed the primary factors contributing to food waste production in retail stores, which include packaging damage, over-stocking, and over-preparing, all associated with challenges in forecasting customer numbers. Additionally, customers' rejection of suboptimal food products was identified as a significant contributor. The food types that show the most significant impact on food waste production in supermarkets are fruit, vegetables, and bakery items. Moreover, products with higher added value, such as ready-to-eat foods prepared in-store, bread, pastry, and seafood, exhibit a higher rate of food waste in relation to sales turnover (Cicatiello & Franco, 2020).

Food waste within the catering industry in Poland continues to be a topic that lacks comprehensive study, primarily due to the reluctance of catering establishment owners to share relevant data. Many of them are hesitant to disclose such information,

fearing its potential misuse. According to the results of the conducted research of this nature in Poland, it was shown that leftover food on plates contributes significantly to the overall food wastage in food service establishments (Bilska et al., 2022; Tomaszewska et al., 2021). These studies indicated many possible methods of managing food surplus as practices employed in Poland by some restaurants or hotels owners e.g. selling meals at promotional prices, unsold dishes made available to employees, encouraging consumers to take away leftovers. However, more attention should be devoted to actions aimed at preventing food overproduction. It should not be forgotten that the majority of problems are caused by consumers' behaviour in relation to food served in catering establishments where too large portions constitute the main reason for the so-called plate waste (73.8% of answers), ordering too many dishes (54.8%), the inappropriate taste of food (23.8%), unpleasant atmosphere and finding undesirable elements in a dish, e.g. hair or nail (Bilska et al., 2020; Tomaszewska et al., 2021). A factor that can also concern consumers from the CEE countries was identified by Filimonau et al. (2020), who highlighted that the primary cause of food waste in the catering industry stems from consumers' elevated expectations concerning the catering selection and the sector's aim to satisfy these demands. Consequently, this results in the overproduction of food. Food waste in the catering sector in Poland, Slovakia and Czechia can be influenced by several factors at different levels, such as consumer expectations, consumer and staff engagement, and operational practices and more research is needed to identify the areas that require more immediate actions.

Post-communist countries within the EU demonstrate lower levels of household food waste when compared to other EU countries (Veselá et al., 2023). Several factors affect food waste in households and should be discussed in cultural and behavioural dimensions. Pelau and Sarbu confirmed that different nations' national cultures, values and habits impact the quantities of wasted food (Pelau et al., 2020). In general, in countries, including Poland, Czechia, and Slovakia, traditional customs need to undergo change in eating habits, encouraging them to purchase products based on their actual needs (Pelau et al., 2020). Based on the Hazuchová et al. (2022), it can be concluded that shopping decisions in Slovakia are primarily influenced by the state of the household's supplies and whether a list has been prepared in advance. Czech consumers show a preference for discounts and overall prices when shopping. Poles are regarded as the least responsible for food purchases.

As demonstrated by Veselá et al. (2023), in the case of Czech consumers, both socio-demographic indicators and the level of subjective food waste are affected by the overall management of food within the household. Product characteristics play a crucial role in decision-making, particularly for women and individuals with higher levels of education. In the study conducted in Poland, it was discovered that younger people tended to waste food more frequently. Conversely, older participants wasted

food less frequently and were more inclined to utilize leftovers to prepare other meals. Individuals with a university-level education were found to waste food more frequently, however they also demonstrated a higher propensity to adhere to storage conditions specified by the producer and to pay heed to expiration dates on labels (Bilska et al., 2020). The need for multidimensional actions was thoroughly described by Macková et al. (2019), and can serve as a universal list for all the three countries. Macková et al. (2019) expressed the necessity for heightened public communication regarding food waste, encompassing its adverse environmental effects, the economic repercussions of food loss, and the imperative to ensure access to nourishment for those unable to afford it. A pivotal outcome of the survey lies in discerning distinct consumer clusters characterised by differing opinions and attitudes toward food waste. Leveraging these clusters, developing and implementing targeted communication strategies tailored to resonate with specific consumer groups then becomes feasible.



4.3. Food Waste and SDG

Enterprises from the agri-food sector pursuing their strategy to implement selected sustainable development goals should analyse value chains to identify sources of waste and eliminate them. This is now also a necessity due to the transition from a linear to a circular economy in which – by definition – waste does not occur. Each material is viewed as a potential resource for reuse (von Braun et al., 2023). The concept of a circular economy is grounded in the waste management hierarchy and the '6R' principle (Ciccullo et al., 2021; Papargyropoulou et al., 2014). The central notion is to structure production processes, services, and energy usage to minimise or eliminate waste. The closed-loop concept suggests that rather than discarding raw materials for storage or incineration, they should be recycled for reuse, while products should be utilised many times. Food waste and loss are intricately linked to various Sustainable Development Goals (SDGs) due to their far-reaching impact on environmental, social, and economic sustainability. It is in the interest of entrepreneurs to skilfully indicate how individual activities may affect the achievement of the SDGs. The challenge of limiting Food Waste Loss (FWL) can be indirectly linked to six different goals, with goal 12 referring to this issue most precisely and broadly (Table 4.3).

SDG 12 specifically addresses the need for sustainable consumption and production patterns (Bartelings & Philippidis, 2024). Food waste and loss are a significant barrier to achieving this goal, as they represent inefficiencies in the global food system. By reducing food waste and loss, countries can promote more sustainable consumption and production practices, contributing to the overall achievement of the task SDG 12.3. Implementing sustainable consumption and production practices

Table 4.3. Food wastage addressed to the framework of the UN Sustainable Development Goals

SDG	Explanation
SDG 2: Zero Hunger	FWL directly contradict the goal of achieving zero hunger. When edible food is wasted or lost at various stages of the supply chain, resources used to produce that food, such as water, land, and labour, are also wasted. By reducing food waste and loss, more food can be made available to feed the world's growing population, contributing to eradicating hunger.
SDG 3: Good Health and Wellbeing	Food waste and loss have implications for public health. When food is wasted, it not only represents a loss of resources but also contributes to environmental pollution, such as greenhouse gas emissions from decomposing organic waste in landfills. Addressing food waste can improve environmental quality, which in turn can have positive impacts on human health and well-being.
SDG 6: Clean Water and Sanitation	Food production requires significant amounts of water. When food is wasted, the water used in its production is also wasted. By reducing food waste, less water is needed to produce food, which can help alleviate pressure on water resources and contribute to achieving clean water and sanitation for all (Ringler et al., 2022).
SDG 7: Affordable and Clean Energy	Food production , processing, and distribution require energy inputs. The energy used in these processes is wasted when food is wasted. By reducing food waste, less energy is required, leading to greater energy efficiency and contributing to the goal of ensuring access to affordable and clean energy
SDG 8: Decent Work and Economic Growth	Food waste and loss have economic implications, as they represent a loss of resources and potential income for farmers, producers, and businesses along the supply chain. By reducing food waste, more resources can be used efficiently, increasing economic productivity and job creation, contributing to decent work and economic growth.
SDG 12: Responsible Consumption and Production	Food waste contributes to an unsustainable consumption and production model as it leads to the excessive use of natural resources, including water, arable land, and energy, which are essential for food production. Additionally, food waste generates greenhouse gas emissions through decomposition and fermentation processes, which produce methane and carbon dioxide.

Source: own work based on (United Nations, n.d.).

can counteract food waste by promoting efficient resource use e.g. water use, reducing overconsumption, and advocating responsible attitudes towards food purchasing and consumption (Ringler et al., 2022). Such actions may include consumer education on proper food storage and utilisation, supporting technological innovations to minimise losses throughout the supply chain, and promoting a circular economy that minimises waste generation. Thus, achieving Goal 12 can contribute to reducing food waste by creating more sustainable consumption and production patterns, which positively impacts the environment, economy, and society as a whole (Bartelings & Philippidis, 2024). Food waste has significant environmental impacts, but valorisation methods such as composting and biofuel production offer potential sustainable solutions (Trivedi et al., 2023).

4.4. Conclusions

The issue of food loss and waste should be viewed from a broad perspective by stakeholders due to its impact on various aspects of each country's economy. Any amount of waste is linked to a certain amount of resources, including water, energy, and manpower. Both industrial and household waste necessitate appropriate waste management strategies. Given the current situation, the question arises: do we have overly high standards? Can businesses and consumers transition to a model where growth is not synonymous with increased production and consumption? This raises the question of whether we are at risk of a food waste pandemic, or already experiencing it? Collaboration between the public administration (on European and national levels) and non-governmental organizations is essential to act at every stage of the food chain to prevent resource wastage. Considering the significant amount of food waste generated by households in Poland, Slovakia, and Czechia, it seems that this area requires the most effort. However, this area also appears to be the most challenging to address, because age, education, economic activity, and perceived income influence individual attitudes towards food waste.

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CHAPTER 5

A Case Study of Czechia and Poland Towards a Sustainable Future: The Crucial Role of Reuse Centres in Circular Economy Implementation

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Quote as: Kostikov, E., Szramowski, D., & Švecová, M. (2024). A Case Study of Czechia and Poland Towards a Sustainable Future: The Crucial Role of Reuse Centres in Circular Economy Implementation. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 68-91). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.05](https://doi.org/10.15611/2024.92.5.05)

Abstract: This comparative case study explores the concept and operational dynamics of reuse centres in Czechia and Poland, facilities dedicated to extending the life cycle of products through repair, refurbishment, and redistribution. These centres are integral to sustainable waste management and the circular economy, aiming to reduce waste volumes, conserve resources, and decrease reliance on raw material consumption. The study investigates how reuse centres contribute to these goals by examining their operational frameworks, impacts, and integration within local and national waste management strategies. Both countries, driven by distinct policy environments and community engagement levels, have developed unique approaches to implementing these practices.

Keywords: circular economy (CE), reuse centres, sustainable practices, Czechia, Poland



5.1. Introduction

As the urgency to address environmental sustainability intensifies globally, the circular economy (CE) emerged as a transformative approach to traditional waste management systems. This study focused on reuse centres located in Czechia and Poland, which serve as vital instruments in advancing CE principles. They are

dedicated to extending the life cycle of products through repair, refurbishment, and redistribution, thus promoting resource conservation and waste minimisation.

Employing a mixed-methods approach that blends qualitative interviews with quantitative data analysis, this comparative case study examined the operational frameworks, societal impact, and the multifaceted challenges encountered by reuse centres in these two countries. Their current state reveals a significant evolution from their inception, driven by changing policy landscapes and growing public awareness of sustainability issues. In both nations, these centres not only contributed to substantial waste reduction but also enhanced community education and spurred economic development through job creation.

However, despite these advancements, the implementation of reuse centres faces several challenges. These include variability in consumer awareness, differing levels of government support, and logistical constraints, all of which influence the effectiveness and scalability of reuse initiatives. By analysing the distinct strategies of Czechia and Poland, shaped by their unique policy environments and community engagement levels, this research provides valuable insights into the adaptable models of CE practices that can be customised to regional necessities.

This study underlines the critical role of reuse centres in the CE, suggesting that they are not merely waste reduction facilities but crucial elements of a sustainable future. As more countries consider CE models, the experiences of Czechia and Poland offer practical guidance for integrating reuse centres into broader national waste management strategies, thereby enhancing environmental sustainability and fostering economic resilience.



5.2. Literature Review

In the context of sustainable development, the repair and reuse of materials and products become key elements of strategies to reduce waste and promote ecological consumption. These practices not only limit the amount of waste going to landfills, but also reduce the demand for new raw materials, thereby contributing to the protection of natural resources and the reduction of greenhouse gas emissions associated with the production of new goods. Faced with growing environmental challenges, reuse and repair gain new significance as ways to achieve the goals of European environmental policy, including regulations aimed at achieving a circular economy (European Union, 2015, pp. 2-4).

The circular economy (CE) is a combination of reduction, reuse, and recycling aimed at systematically reducing the negative impact on the environment while simultaneously attempting not to decrease the quality of life of consumers (Kirchherr et al., 2017, p. 229). This concept is the opposite of the model of mass and intensive

consumption based on the principle of 'take – produce – consume – dispose', which constantly introduces new sources of raw materials for production, leading to their continuous depletion from the production resources (Elisha, 2020, p. 497). A circular economy requires that products are designed in a way that allows for their continuous use while maintaining constant value (Yuan et al., 2006, p. 6).

Reuse, defined as the process in which products or their parts which are no longer needed by one user but are still in good condition, such as computers or furniture, are passed on to other individuals who can use them, highlights the value of extending the life of products. Thus, repair and reuse serve as an alternative to consumerism, promoting a more conscious and responsible approach to resources.

However, applying this approach requires transformation in the waste economy sector, so that activities related to repair and reuse become an integral part of it. This requires not only regulatory changes but also the development of infrastructure enabling the collection, repair, and redistribution of used products, as well as promoting public awareness and acceptance of such practices. Achieving these goals is crucial for the realisation of sustainable development principles and building an economy that does not negatively impact the environment (Ellen MacArthur Foundation, 2015, pp. 6-12).

In this context, the development of repair and reuse centres, supporting community and business initiatives in this area, and the implementation of public policies encouraging such actions, become essential to transform the reuse sector into a key element of the waste management system. Only through an integrated approach, combining regulatory, educational, and economic actions, can broad adoption of repair and reuse practices be achieved, which is essential for achieving sustainable development goals and the implementation of EU environmental policies.



5.3. Methodology

In the comparative analysis of reuse centres in Czechia and Poland, a mixed-methods approach was employed to capture both the quantitative impacts and qualitative insights into their functioning and outcomes within the circular economy framework. The methodology integrated three primary components.

1. Quantitative data collection: utilising both government and non-government databases, statistical data related to waste management, resource savings, and economic impacts of reuse centres were collated. These data points provided a foundation for evaluating the effectiveness of reuse centres in achieving environmental sustainability goals.
2. Qualitative assessments: case studies were conducted to gather in-depth perspectives from stakeholders, including centre managers, local government

officials, and community members. These case studies explored the operational challenges, success stories, and community impacts of reuse centres. Additionally, observational visits to selected facilities offered firsthand insight into daily operations and interactions between them and their users.

3. Comparative analysis: the study employed a comparative framework to analyse the differences and similarities in the implementation and outcomes of reuse strategies in Czechia and Poland. This involved assessing the policy environments, stakeholder engagement, and community responses in each country.

The research aimed to provide a comprehensive understanding of how reuse centres contribute to waste reduction, resource conservation, and social and economic benefits within their communities. This approach highlighted the potential scalability and adaptability of reuse practices in different regional contexts within the broader EUs circular economy objectives.

5.4. Research Results: The Case Study

5.4.1. Reuse Centres in Poland

As part of the sustainable development strategy in Poland, a pilot project on Circular Economy (CE) was initiated, targeting selected municipalities including rural and semi-urban areas such as Łukowica (Małopolskie province), Tuczno (Zachodniopomorskie province), Wieluń (Łódzkie province), and Sztum (Pomorskie province). The aim of this initiative was the comprehensive implementation of CE principles, designed to minimise raw material losses and maximise their reuse (Kostikov & Szramowski, 2023, p. 162).

This project encompassed a broad spectrum of activities focused on various aspects of the economy and social life, aiming not only at reducing the amount of waste generated but also at more efficient management of existing resources. These elements include the development and optimisation of selective waste collection systems; the goal was not only more effective waste segregation but also the prevention of waste generation through the promotion of practices that reduce municipal waste production.

Key initiatives within the project include:

- 1) local waste treatment facilities: modernisation and expansion of waste infrastructure to enhance recycling and reuse capabilities;
- 2) development of infrastructure to reduce waste production: implementation of technological and organizational solutions aimed at decreasing waste generation during production and consumption phases;

- 3) promotion of environmentally friendly transport: encouraging the use of public transport and developing infrastructure for electric vehicles and bicycles to reduce CO₂ emissions;
- 4) energy efficiency: implementing solutions that save energy in residential buildings, public utilities, and enterprises;
- 5) application of CE principles in households: education and promotion of practices that enable the closing of resource loops in everyday life;
- 6) sustainable agriculture and food processing: introducing resource-efficient production and processing methods that minimise environmental impact and promote the recycling of organic waste;
- 7) water saving: implementing technologies and practices that reduce water consumption in households, public sector, and businesses;
- 8) resource-efficient local business economy: promoting practices among entrepreneurs that reduce the consumption of primary resources and limit waste production;
- 9) rational land management: efforts to reverse land degradation processes and explore new, sustainable ways to utilise land.

This initiative, through a comprehensive approach to waste management and sustainable resource management, aims to achieve key objectives related to environmental protection and sustainable development. By engaging local communities, governmental authorities, and businesses, the project strives to create an economic model that can serve as an example not only in Poland but also on a broader European level. By promoting the principles of the CE, the project supports not only local ecosystems but also contributes to global efforts to protect the environment and combat climate change.

A critical aspect of the project's implementation is the engagement and education of the residents of participating municipalities, whose daily choices and practices can significantly contribute to achieving the set goals. The introduction of selective waste collection systems, the promotion of energy efficiency, and water-saving measures require active participation and a change in habits.

This initiative also demonstrated the importance of integrating actions across various dimensions – from infrastructure to technology, to education and social engagement. Only a comprehensive and multidimensional approach can yield lasting and visible results in the long run.

The pilot project 'Circular Economy in Poland' represents an important step towards implementing sustainable development principles and building a closed-loop economy. By introducing innovative solutions and promoting responsible consumption, it aims to create a model that can serve as a benchmark for other initiatives both nationally and internationally.

In Poland, one can observe the emergence of reuse points aimed at extending the life cycle of items through their reintroduction to use. For example, in Zabrze there is a Reuse Point located within the Municipal Waste Selective Collection Point, where residents can hand over items suitable for further use. The range of accepted items is broad, including furniture, toys, sports equipment, children's accessories, kitchen utensils, carpets, panels, tiles, and other household furnishings in good technical condition. This initiative not only helps to reduce the amount of waste sent to landfills but also supports the closed-loop economy idea, promoting reuse and recycling as key elements of sustainable development (*W Zabrze działa...*, 2022). These points are often located at Municipal Waste Selective Collection Points (PSZOK) and are frequently managed in cooperation with non-governmental organizations. A crucial part of their operation is ensuring that the items are functional and safe for use, which requires appropriate testing and possible repairs.



5.4.2. Reuse Centres as New Opportunities

Reuse centres, also known as centres for reusing items, are organizations or facilities dedicated to increasing the reusability and extending the lifespan of products and materials. They play a crucial role in sustainable material management and the fight against wastage and excessive waste production, as well as fulfil several functions: environmental, social, and economic.

In contrast to reuse centres, reuse points are designated spots within waste collection plots, usually a large container, where items that can still be useful are deposited instead of ending up in landfills. These items can be taken for a nominal fee or free of charge, thus given a new life (Reuse Federace, n.d.).

Regarding the further utilisation of products, one can also encounter the concept of a furniture bank, which functions as a social service for people in financial distress. This service operates in cooperation with the city or region. Through the social department, an individual or family can request specific items. This service is utilised in setting up starter apartments, social housing, and other necessary situations, such as the Ukraine refugee crisis, which required outfitting numerous accommodation facilities in just one month (Reuse Federace, n.d.).

The last two terms directly related to reuse issues are swap and upcycling. Swap is an English term for exchanging items. It is often a community event where people exchange clothes, books, toys, and sometimes even plant swaps are organized. The principle is the same: what one person does not need, they bring to the event, and another person takes it for free. Swaps are usually one-time and very popular events that allow items to be donated and acquired (Reuse Federace, n.d.). Upcycling refers to the process of adding value to unwanted items by creatively repurposing

and redesigning them. Even an unwanted and unneeded item does not have to be condemned to disposal (Reuse Federace, n.d.).

Environmental Function of Reuse Centres

The main goal and mission of establishing reuse centres are to coordinate and control waste reduction and extend the lifespan of products. Reuse centres or points are places where items are not thrown away but are reintroduced into the usage cycle, and their use offers several advantages:

- preserving the value of materials and energy contained in products and maintaining their original function,
- reducing the amount of waste destined for recycling, energy recovery, or land-filling,
- increasing public awareness and creating a relationship to the values preserved in used items, thereby protecting nature through a more sustainable lifestyle,
- reducing overproduction.

Social Function of Reuse Centres

Another function of reuse centres is social. Within this function, local employment opportunities can be created for individuals with lower education levels; support for requalification training aimed at socially excluded persons, long-term unemployed individuals, and those in disadvantaged social situations. Other benefits include:

- ensuring quality products that are affordable for households with low incomes,
- supporting reintegration and improving the quality of life for disadvantaged groups,
- developing self-sufficient and resilient local communities.

Reusing can have a significant social impact, especially when operated with a clear social objective, such as a social enterprise. Activities associated with reuse have a high potential for creating jobs since they require manual labour such as collection, sorting, cleaning, and repairs and do not require high education. This potential is much greater than in other waste management sectors, such as recycling, landfilling, or incineration. Some estimates show that for every 10,000 tons of waste products and materials, one job can be created if they are incinerated; six jobs if landfilled; 36 jobs if recycled; and up to 296 jobs if they are renewed and reused (RREUSE, 2015).

Social enterprises have a long tradition of providing inclusive upskilling and requalification in the circular economy. They support the manual circular skills essential for the circular economy, social cohesion, and job creation. In addition to ecological skills, social enterprises active in the circular economy ensure access to technologies and support basic and advanced digital skills, including those that promote ecological transition. Lastly, they support the development of cognitive

and interpersonal skills, such as self-motivation and teamwork (RREUSE, 2015). Often, these are construction experts, repair specialists, waste management trainers, or reuse experts who pass on their knowledge to help socially excluded people not only to acquire repaired items at better prices but also to integrate them into the workforce in areas with high added value for companies.

Economic Function of Reuse Centres

The main economic benefit, especially for local governments tasked with reducing waste, is the reduction in waste disposal costs. Although a reuse centre that employs workers also incurs costs, it is necessary to calculate its overall contribution and strive for its economic benefit to exceed its expenses. To achieve this, it is necessary to create a network of cooperating partners who share costs or sell waste to those who can further process it. The economic impact depends on the type of waste. Specific examples will follow in the next section.

Reuse centres can take various legal forms. Often, however, they are social enterprises. In Czech social entrepreneurship, a new concept has emerged: environmental social enterprises, which besides social issues, also address ecological issues. They are often associated with biodiversity or excessive waste. For example, the North Bohemian social enterprises Jizerská Lavender Farm and the Koukol Soap Factory produce natural cosmetics from own-grown herbs or sustainably managed meadows. The Soap Factory Koukol has become a member of the community of companies and non-profits, called 'We Are a Decent Company.'



Fig. 5.1. Federation's installation in the Westfield Chodov shopping centre

Source: (Reuse Federace, n.d.).

The České Budějovice-based reuse and furniture workshop, Kabinet CB processes tons of furniture and other items that would otherwise end up in landfills into beautiful designer pieces, also equipping social apartments. The founders of Kabinet CB were also at the founding of the Czech Federation of Furniture Banks and Reuse Centres, which is one of the main promoters of the concept of reuse centres and points in Czechia and has many already established facilities across the country. One of the latest events organized by the Federation was the installation of renovated chairs at the Westfield Chodov shopping centre in Prague (Fig. 5.1). The exhibition lasted until January 3, 2024, and was part of the events with which the Federation highlights that old things do not have to be really 'old' (Reuse Federace, n.d.).

However, for a reuse centre to be successful and fulfil all three functions mentioned, it is necessary that it is surrounded companies, people, and create a network of supplier-customer relations because even though a reuse centre is a simple concept, its sustainability is challenging.

Collaboration as Part of the Reuse Centre Concept

This can be described as a transparent supply chain. Sometimes it is enough to talk about the journey of the product or even its story, where every item has its own narrative. Therefore, the sphere of the circular economy values fair trade, where the path of the product from the grower to the consumer is clear. Not all goods need to be transported back and forth across the globe; many products can be regional. Social entrepreneurship also benefits from the support of the local economy, which is even one of the required principles in granting titles: work for local people, consumption of local raw materials, and local sales of products and services. Such enterprises are key to local collaboration: not only between social and other companies but also with institutions, all of which contributes to creating dignified work in regions and prevents the outflow of people from rural areas to cities.

The Interreg Europe programme features a Policy Learning Platform, focused on EU legislation. This is a web project that includes a range of case studies and experiences from local governments with practical solutions for various projects. Its purpose is to inspire EU community policymakers by presenting real-life cases. Among other things, this has resulted in a Handbook on Reuse and Repairs in the Circular Economy, which offers advice to those interested in establishing a reuse centre, one of which is to 'create a local reuse culture' (*Reuse and Repair...*, 2022). The authors highlight the importance of linking efforts within the region, creating a list of partner organizations, and organizing activities to further support education in the region. Yet in this case, it is not just about education; for a reuse centre to operate truly effectively, even items that no one picks up must find their use, which is what the idea behind circular economy.

In Czechia, the Federation of Furniture Banks and Reuse Centres based in České Budějovice provides collaboration. Established under the Active Citizen Fund, which

is financed by the EEA and Norway Grants, it is an association of furniture banks and reuse centres operating in Czechia, of socially and environmentally beneficial organizations that help preventing the creation of municipal waste. They strive to connect already existing locations, initiate the creation of new ones, and care for the development and support of the topic among the public and local administration, so that reuse becomes a clearly understood concept and a popular alternative for disposing of items. Through changing consumer behaviour, they aim to ensure that usable items do not end up in landfills but are returned to circulation through organizations that ensure their collection, repair, and redistribution. The main goal of the federation is to create a strong membership base that will form an active network of sustainable and cooperating reuse operations. It is also the only institution in Czechia that is a member of the international association RREUSE based in Brussels, which has been operating since 2001. The key activities of the Federation are:

- define possible ways of operating reuse,
- inspire and consolidate existing examples of good practice,
- present and communicate these models to state administration and local governments,
- ensure support and development for reuse centres (<https://www.reusefederace.cz/>).

Active reuse centres can join as members, but partnership with the federation is also possible. More information can be found at <https://www.reusefederace.cz/kontakt>. The federation already operates or has made contact in regions marked on the map below, which shows that the Karlovy Vary, Hradec Králové, Zlín regions, and the Vysočina region are not yet part of the network (Fig. 5.2).

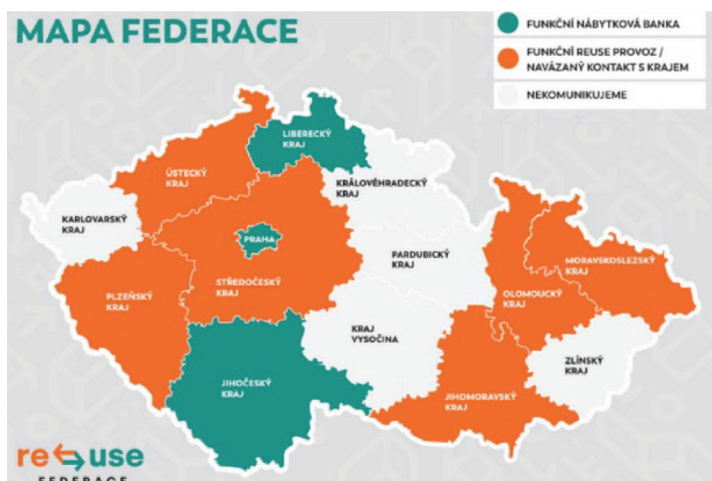


Fig. 5.2. Map of Czech regions according to the activities of the federation

Source: <https://www.mapotic.com/re-use-mapa-cz>

Thus, there is still room for coverage improvement. In the following sections, the situation in Czechia and abroad is analysed in more detail.

5.4.3. Overview of Reuse Centres and Points in Czechia

Most reuse centres were established after 2017, but the first was created in 2016 in Brno. One of the most beautifully designed is the colourful establishment in Ostrava, whose interior was designed by Radek Leskovjan, and which even competed in the architectural competition 'Building of the Year' (Fig. 5.3).



Fig. 5.3. Interior of the Ostrava Reuse Centre

Source: <https://reuse.ozoostrava.cz/>

Reuse centres and points in Czechia are being established relatively quickly, although there are areas where their presence is lower or uncharted. Their distribution can be seen in Fig. 5.4.

The federation manages the interactive map shown in Fig. 5.4. So far, it has registered 16 reuse centres and 44 reuse points (mainly collection yards), two electro reuse points, and three furniture banks. Prague leads with a total of 27 registered locations, followed by Pilsen with three, and Brno also with only three registered locations. However, their complete mapping is practically impossible due to the different legal forms they can take, as will be presented in the examples. Therefore, the analysis typically utilises the map from the Federation of Furniture Banks and Reuse Centres for Czechia and the list from the RREUSE network.

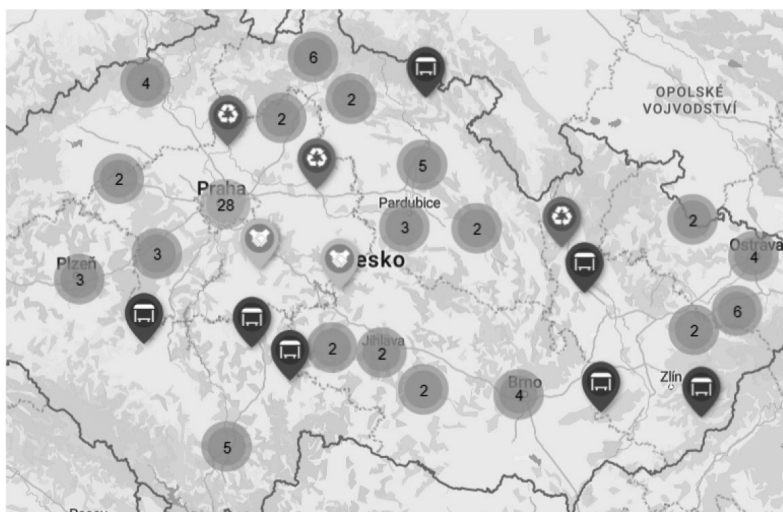


Fig. 5.4. Map of reuse centres/points

Source: <https://www.mapotic.com/re-use-mapa-cz?zoom=3&lng=15.034962909503292&lat=49.901711217260214> (retrieved December 21, 2023).

Part of this study includes examples of how selected reuse centres and points operate in Czechia.

Selected Reuse Centres or Points in Czechia

One example of a reuse centre/point in Prague, called 'Pod Šancemi', is located at the back of a waste collection yard in the Prague 9 district (Fig. 5.5). It consists of a small booth and a large container, and is staffed by an employee of Prague Services, who accepts and distributes contributions. Donated items are photographed and uploaded to the app 'Nevyhazujto' [Don't Throw It Away]. Items must be reserved in the app before pickup, and one cannot simply visit the location and choose freely. Selected items are reserved for one week. Using the app is advisable before visiting reuse points in person, as items of interest may be unavailable or already reserved.

An interesting example is the non-profit organization, Sue Ryder. Founded by its English namesake who lives in Czechia, its main idea is to help senior citizens. Thus, since 1998, it has managed a retirement home. However, as early as 1996, its first charity shop was established in Prague. This example is presented due to the idea of financing the home from multiple sources. Since 2006, the foundation ceased to receive grants from the UK and had to find its own income. Besides regular fundraising and state subsidies, the foundation also utilises reuse in its eight charity shops across Prague and one restaurant. Donations to the shops can include clothing, fashion



Fig. 5.5. Example of items from the Reuse Centre 'Pod Šancemi'

Source: <https://www.nevyhazujto.cz/user/62784> (retrieved November 22, 2023).

accessories, shoes, sports equipment, toys, gift items, art, books, or ceramics, glass, porcelain, as well as household items, drivable cars, functional electrical appliances, and furniture.



Fig. 5.6. Outputs of the Sue Ryder Foundation

Source: <https://darekprosueryder.cz/> (retrieved December 22, 2023).

The Reuse Centre Ostrava is another project that cannot be overlooked (Fig. 5.7). It serves as an example of a functional business model based on reuse and often draws attention not only within Czechia. It is a joint project of the city of Ostrava and the company OZO Ostrava. It offers donated furniture and functional items but

does not accept electrical appliances. The items are repaired (only minor repairs, not complete repairs, redesign, or upcycling) and resold. The interior and overall design of the premises offer a different view of the value of things.



Fig. 5.7. Reading Nook in the Reuse Centre

Source: (Reuse Centrum, n.d.).

The originality is clear, yet the place has a layout typical of retail chains – aisles, and neatly arranged items that shoppers can imagine directly at their home.



Fig. 5.8. Sales area

Source: (Reuse Centrum, n.d.).

In the store, furniture is generally arranged to create colour-coordinated ensembles, allowing customers to choose according to their own preferences.

The centre also organizes various events, such as a Christmas market and Christmas swap, and even has its own discount events, very much like an actual shopping centre, including marketing and advertising activities, and treats items, used as standard products (Fig. 5.9).



Fig. 5.9. Christmas event advertised on Facebook

Source: <https://www.facebook.com/reusecentrumostrava> (retrieved December 22, 2023).

A pressing issue for reuse centres is often electronic equipment. Some manage it well, others do not. However, there are other organizations that can assist municipalities with electronic waste.

New Categorization of Electronic Waste

The category of electronic waste, or e-waste, includes waste that has batteries or is connected to an electric current, and is one of the fastest-growing categories of waste in the EU. Therefore, its reuse also represents a problem with repair and safety, hence many places do not accept it. Despite the increase in the relative rate of electronic waste collection in Czechia, the requirement of the EC to achieve a minimum return rate of e-waste of at least 65% has not been met, and in reality, it was at 57.5% for 2021 (Waste Management Department MZP ČR, 2023). As of January 1, 2019, the following division of electronic waste into individual groups is in place.

Group 1: heat exchange equipment: refrigerators, freezers, air conditioners, dehumidifiers, heat pumps.

Group 2: imaging technologies: monitors and devices containing screens larger than 100 cm² – TVs, monitors, and laptops.

Group 3: light sources: fluorescent lamps, discharge lamps, LED lamps.

Group 4: large appliances with an external dimension larger than 50 cm: washing machines, dryers, dishwashers, ovens, cookers, cooking plates, light fixtures, electronic instruments, music equipment, large printers, and copiers.

Group 5: small appliances with an external dimension smaller than 50 cm: vacuum cleaners, microwaves, ventilation systems, irons, kettles, hair dryers, shavers, scales, watches, radios, video cameras, cameras, toys, sports equipment, drills, saws.

Group 6: small information technology and telecommunications equipment with an external dimension smaller than 50 cm: mobile phones, navigation systems, calculators, personal computers, printers, telephones (Potěšil, 2019).

Currently, the reverse collection of electronic waste is regulated by the new Act on Products with Expired Life No. 542/2020 Sb. which is based on the principle of the extended producer responsibility. Legally, the reverse collection and utilisation of waste electrical equipment must be ensured by individual producers or importers of electrical equipment, although in reality these services are performed for the producer by specialist organizations called collective systems (Tomášková, 2021).

One of the most commonly mentioned options is the door-to-door variant. This means bringing the waste container as close as possible to households, thereby activating residents to dispose of their waste. This solution is generally suitable for all types of larger waste and is quite commonly used.

Another possibility is cooperation with the collective system of waste collection, which is certified but also offers a whole range of other programmes and services to motivate citizens to recycle. Their list as of 1.8.2023 can be found on the website of the Ministry of Environment (Ministerstvo životního prostředí, 2023). Each provider is different and offers different programs. It is worth exploring individual websites and project links, which can provide a wealth of inspiration. The most interesting projects are listed below.

Selected Projects for Electronic Waste Removal

Elektrowin Projects. Elektrowin a.s., authorised by MPZ č. MZP/2023/720/61, tries to find unusual ways to approach citizens and has a programme called 'Recycle with Firefighters,' which volunteer firefighter units can join, providing an opportunity for smaller municipalities and their residents to dispose of e-waste while also partially financing the operation of the firefighters. Cooperation with volunteer firefighters can be motivational for both older residents – who may struggle with transporting appliances – and for children, who often see firefighters as their heroes. The events they organize are also historically major festivals for smaller communities in Czechia.

Using various information channels, they motivate residents to donate functional appliances to less fortunate people, families, or organisations that help them. One of the companies involved in the backward collection of functional electrical appliances,

which also provides revisions, is Elektrowin a.s., a collective system designated for the backward collection of end-of-life electrical appliances in Czechia and operates the web project jsemzpet.cz. Through the website, it is possible to donate an electrical appliance, which the company will come to pick up. Prospective donors fill out a questionnaire on the website (Fig. 5.10) and after evaluating the criteria, will be contacted.

KRÁTKÝ DOTAZNÍK

O jaký typ spotřebiče se jedná:

- ☐ Chladnička, mraznička nebo jejich kombinace
- ☐ Pračka
- ☐ Myčka
- ☐ Sušička
- ☐ Sporák

☐ Trouba

☐ Varná deska

☐ Mikrovlnná trouba

☐ Malý domácí spotřebič

prosim uveďte jaký

DÁLE

Fig. 5.10. Donor questionnaire

Source: <http://www.jsemzpet.cz/> (retrieved December 18, 2023).

The advantage of the project is the inspection of the appliance by a control technician, who guarantees the safety of the appliance, and this removes the obligation from the municipality, and donors feel that they are helping the Fund for Endangered Children, asylum homes, or other organizations that help people in need. Elektrowin also offers the opportunity to apply for funding for informational campaigns about e-waste or a motivational program in the form of a reward.

Možnosti svozů elektrozařízení zdarma



Fig. 5.11. Promotional banner of REMA in the 'Be Lazy' project

Source: (REMA Systém, 2023).

REMA Projects. Additionally, it is possible to participate in the project of the company REMA Systém a.s. called 'Be Lazy' which collects e-waste for free (Fig. 5.11).

As waste collection operates in the system of reverse collection of products, the municipality does not need to maintain records of the waste (REMA Systém, 2023). The project is suitable for individual citizens, as well as for municipalities, companies, and schools. Therefore, it can serve as information for citizens who need to dispose of their e-waste and simultaneously prevent the creation of illegal landfills.

The main goal of this section, however, is not a detailed description of the activities and case studies of individual reuse centres, but rather an international comparison. The next section provides an overview of how the concept of reuse centres is perceived in Europe.

5.4.4. Overview of Organizations Operating within the International RREUSE Network

Just like in Czechia itself, it is not easy to find all, or at least ‘the selection of the best,’ reuse centres abroad. Therefore, the authors chose the important European organization RREUSE which is an international network of social enterprises operating in the circular economy, particularly in the areas of reuse, repair, and recycling, with its headquarters in Brussels (RREUSE, n.d.). The organization is a member of various other organizations and expert groups, including the Expert Group of the European Commission for Social Economy and Social Enterprises and the Consultation Forum of the European Commission for Eco-design and Energy Labelling, thus having its share in decisions made by members of the European Commission regarding the sector of the circular economy. Within its network, it addresses 1,100 social enterprises within a broader network of partners in these areas of reuse: furniture, electronics, textiles, books and recordings, small useful items, toys, but also electronics, batteries, hazardous waste, and others. Additionally, DIY-type activities, which includes repairs, as well as activities in the field of construction and demolition and, of course, further use of building materials from demolitions (RREUSE, 2022) and not only within the EU but also beyond its borders. The organization, like the Czech Federation, manages an interactive map covering its reach, see the figure below. The map of the network shows that the Central and Eastern Europe (CEE) region still has significant reserves in the area of reuse. In contrast, Scotland, Ireland, Austria, and France are covered by a relatively large network of institutions (Fig. 5.12).

It has already been mentioned that the broader base has up to 1,100 members. However, the study focused on the main members of the network, their activities, and reach, which they state on their websites.

There are 33 member organizations, which altogether reach another 3,937 organizations that associate or address these partner organizations of RREUSE. In some cases, these are member organizations, and supporters. In the case of the Armenian ISSD, this involves organizations that have joined a nationwide project for the assembly of recycling containers. Many countries with less developed

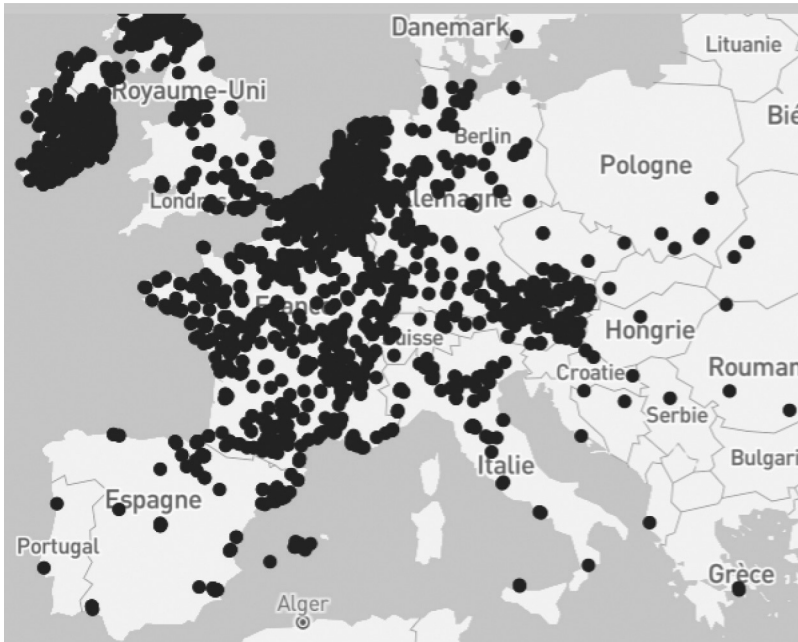


Fig. 5.12. Map of RREUSE's partner institutions network

Source: (RREUSE, 2024).

environmental activities, such as Armenia, have a large number of cooperating entities, because state organizations state, even buyers of products which are already established organizations, predominantly from Western Europe, do not.

CEE is less advanced and less organized in the field of reuse. Its member countries have less organized structures, and the group of partner organizations is based on efforts to educate, spread reuse activities, etc. However, particularly in England, Scotland, Northern Ireland, Ireland, and also in France, the network is often very well organized and includes partners from the entire supply and demand chain, so their effectiveness regarding changes in the circular economy is much higher. Another point is, the development of their own research centres, such as the Rediscovery Centre in Dublin, Ireland. The survey conducted by the authors proves that the policy of reuse centres goes hand in hand with the social inclusion of socially, medically, or otherwise excluded individuals, and allows them to participate in working life. The reuse policy is also linked to lower consumerism and overall moderation in lifestyle, including, for example, pace of work, performance, and profitability requirements of the company. It is not the rule that it is always just about non-profit organizations or charity. Among businesses, other legal norms also occur. It is also worth noting that many of the studied countries, such as Spain and Ireland, have legislation better prepared for

similar types of organizations. For example, there is a certain overlapping between a non-profit organization with zero profit and a for-profit company, i.e. a small profit is allowed, but with the condition of returning most of the turnover to the company's activities. An interesting example is also the Croatian cooperative Humana Nova, which has a separate workshop focused on upcycling advertising banners, billboards, etc. The authors have compiled a table with an overview of all partner organizations of RREUSE. Yet again, due to a lack of space, a reduced version will be placed in the appendix of the text. The full list is provided on a separate spreadsheet in an Excel attached.



5.4.5. Challenges in Czechia

Consumer Awareness and Participation

One of the primary hurdles facing reuse centres in Czechia is the level of consumer awareness and participation. Despite increasing environmental consciousness globally, many consumers remain unfamiliar with the concept of reuse centres and the benefits they offer in terms of environmental sustainability and cost savings. This lack of awareness can be attributed to insufficient marketing, public education, and engagement initiatives that adequately communicate their value proposition.

Solutions and strategies:

- 1) public awareness campaigns: implementing comprehensive marketing and public education campaigns to highlight the environmental and economic benefits of reuse centres;
- 2) partnerships with educational institutions: collaborating with schools and universities to integrate circular economy principles into the curriculum;
- 3) incentive programmes: introducing incentive programmes to encourage more consumers to donate to and purchase from reuse centres.

Logistical and Operational Challenges

Reuse centres in Czechia also face logistical and operational challenges, including the collection, sorting, and refurbishment of items. Efficiently managing these processes requires significant resources, expertise, and infrastructure, which can be daunting for newly established or smaller centres.

Solutions and strategies:

- 1) government support and funding: securing government grants and subsidies to assist with the operational costs associated with running reuse centres;
- 2) collaboration between centres: fostering collaboration among reuse centres to share best practices, resources, and technologies;

- 3) investment in technology: leveraging technology for inventory management, online sales platforms, and logistical coordination to enhance operational efficiency.

Opportunities for Growth and Improvement

Expanding the Network of Reuse Centres. An extensive network of reuse centres across Czechia would ensure greater accessibility for consumers and increase the volume of goods being reused. This expansion requires strategic planning, investment, and community engagement to establish new facilities in other areas.

Leveraging Technology for Enhanced Consumer Engagement. The adoption of digital platforms and e-commerce for reuse centres presents an opportunity to reach a wider audience, streamline operations, and improve the customer experience. Developing user-friendly websites and mobile apps for online shopping, item donations, and information dissemination can significantly enhance consumer engagement and participation.

Integration with Municipal Waste Management Systems. Integrating reuse centres more closely with municipal waste management systems offers an opportunity for systemic change in how waste is handled and processed. By establishing partnerships with local governments, reuse centres can become a key component of the waste management infrastructure, diverting significant amounts of waste from landfills.

The transition towards a circular economy in Czechia, with reuse centres at its core, presents both significant challenges and opportunities. Addressing issues related to consumer awareness, logistical complexities, and operational efficiency is critical for their success and sustainability. However, the potential for growth and systemic transformation is immense. By leveraging public awareness campaigns, technological advancements, and strategic partnerships, Czechia can overcome these challenges and harness the opportunities presented by a circular economy. This shift not only contributes to environmental sustainability but also promotes economic growth and social well-being, marking a step towards a more sustainable and resilient future.



5.5. Conclusions

Reuse centres are more than just places for recycling or selling used items – they represent a key component of the circular economy, integrating ecological, economic, and social aspects of our lives, contributing to a greener and more inclusive future. In the context of Czechia compared to the rest of Europe, weak institutional support and

organization were identified. It is evident that countries such as the United Kingdom, Ireland, and France could serve as models, whereas the situation in the neighbouring CEE countries is very similar.

A shift in thinking and approach to waste management could lead to the better utilisation of municipal resources, while supporting community activities, such as workshops and cafes associated with reuse centres, may increase citizen engagement and strengthen the local economy. The social function is an essential part of the reuse concept, and many of the institutions studied also engage in marketing, aimed at promoting the perception of used items as either 'new' – i.e. redesigned, or given new life associated with a different narrative. These companies view the promotion of their products and services very similarly to commercially oriented companies, primarily using their own platforms such as social networks, websites, or shared apps and websites.

This comparative case study on the implementation and impacts of reuse centres in Czechia and Poland provides insight into the potential of these facilities within the circular economy framework. The research highlights the significant contributions of reuse centres to waste reduction, resource conservation, and community empowerment through job creation and educational outreach. Both countries exhibit distinct yet complementary approaches to the integration of reuse centres in their national waste management strategies, reflecting the influence of local policies and community engagement levels.

This study underlines the necessity for robust policy support and integrated public awareness programmes to enhance the effectiveness and scalability of reuse initiatives. Despite facing operational challenges such as logistical inefficiencies and varying consumer awareness levels, reuse centres in both countries serve as critical components in advancing sustainable waste management practices. The success stories and challenges documented in Czechia and Poland provide valuable lessons for other regions seeking to incorporate circular economy principles into their environmental strategies.

The findings suggest that expanding the network of reuse centres and leveraging technological advancements can significantly enhance operational efficiencies and community engagement. Furthermore, the integration of reuse centres with municipal waste management systems is proposed as a strategic approach to maximise their impact. By fostering a culture of sustainability and resource mindfulness, reuse centres not only contribute to environmental conservation but also promote economic resilience and social inclusivity.

According to research, the reuse concept is also tied to maximising the utility of resources. Companies that offer repairs also, for example, rent out spaces, organize workshops, and so forth. Others, whose original business intent was waste collection, also rent out their services for organized collections and similar activities. The range

of possibilities depicted in the processed tables is broad, and the main barrier seems to be the perceived low value of products associated with the idea of low profitability. However, examples from partner organizations of RREUSE, which have been functioning for decades, prove otherwise.

Other concepts also include reuse centres as an additional source of funding for a completely different activity, especially in the case of non-profit or charitable organizations. Repairing furniture or collecting used items leads to, for example, the furnishing of social care homes, retirement homes, hostels, and similar facilities. It must also be remembered that information must reach those in need, and the organization of transportation or removal can cause problems. This study emphasizes partnership as part of the entire concept, and also found that long-established institutions are already creating an entire supply and demand chain to deliver materials from donors to buyers (or recipients).

The reuse concept is feasible, but it requires a change in attitude towards used items, sufficient information, and know-how, along with suitable partners to bring it to life.

Overall, the case study affirms that reuse centres are crucial in the transition towards a circular economy, advocating for a systemic shift in waste management paradigms to emphasise reuse and resource optimisation. The experiences from Czechia and Poland offer a blueprint for enhancing the functionality and acceptance of reuse centres globally, suggesting that targeted policy interventions, coupled with community-based initiatives, can significantly amplify the benefits of reuse practices in fostering a sustainable future.

Acknowledgements. The paper was created implementing the student project 'From Dutch Disease to Economic Recovery, No. 7427/2022/06', using objective oriented support for specific university research of the University of Finance and Administration and by Science and Research Activities (SVV) at Charles University.

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CHAPTER 6

Welfare Abuse as a Challenge for the Sustainable Development of the Welfare State

Łukasz Jurek

Quote as: Jurek, Ł. (2024). Welfare Abuse as a Challenge for the Sustainable Development of the Welfare State. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 92-108). Publishing House of Wrocław University of Economics and Business

DOI: [10.15611/2024.92.5.06](https://doi.org/10.15611/2024.92.5.06)

Abstract: This study presents selected elements of the research project entitled 'Social, economic and cultural determinants of the use of welfare benefits: an analysis of the problem in the context of benefit morality'; carried out by a research team from the Department of Sociology and Social Policy at the Wrocław University of Economics and Business. The topic is welfare abuse. The author discussed the theoretical concept of this problem, methodological issues related to its study, as well as the results of various empirical studies.

Keywords: welfare state, benefit morality, welfare abuse



6.1. Introduction

The concept of sustainable development is complex and vague (Jabareen, 2008). Traditionally, it refers to three main dimensions: environmental, economic and social (Elliott, 2012). This section focused on the last of these dimensions (social), and the main goal was to implement the ideas of solidarity and social cohesion, eliminate extreme poverty and to reduce economic inequalities.

Public authorities in Western countries have been undertaking organized activities in that field for over a century. From the very beginning, these were initiatives to counteract the negative consequences of the Industrial Revolution, which fundamentally changed social and economic reality. The development of

capitalism led to the polarisation of social relations and the creation of two opposing social classes - owners of capital and wage earners – which differed in terms of political power, position in the social hierarchy and, above all, financial situation. The owners of capital enjoyed a privileged position, while the wage-earners were deprived of basic social and economic rights. The extremely difficult economic situation, combined with the lack of stability, aroused opposition from various groups, including church hierarchy, scientists and social activists. Growing revolutionary attitudes, based primarily on the ideology of Marx and Engels, became the impetus for the formation of a new socio-economic construct to respond to the growing aggression and rebellion of the working class. Under such pressure, politicians began to search for a third way between 'bloodthirsty capitalism' and 'godless communism', as Pope Leo XIII put it in his encyclical *Rerum Novarum* on the question of workers (Nowak, 2018).

This third way became the social reforms that were systematically implemented in Western European countries in the late 19th and early 20th centuries. The pioneer of these reforms was Bismarck, German chancellor, who carried out fundamental welfare reforms by introducing a social insurance system. In the United States the key event that led to implementation of social reforms was the Great Depression (1929-1932), and a wide expansion of state interventionism, in line with the ideas of Keynes. The package of reforms carried out under Roosevelt as part of the New Deal (between 1933 and 1939) introduced a new role for the state – to provide citizens with social security, i.e. protection against culpable deprivation in the event of hardship. In the United Kingdom such a key event that deepened social reform was the Second World War. The Beveridge Report in 1942 proclaimed the creation of the welfare state, which was to be a symbolic shift of the economy from pro-war (warfare) production to pro-social (welfare) production. The government was to take responsibility for society in such areas as insurance, health, education, housing and working conditions.

The development of the welfare state was forced by circumstances and not the result of philanthropy or political machinations. In line with the structural-functional approach, it was a natural way of adapting to the changes brought about by modernisation, industrialisation, urbanisation and population growth (Olsen & O'Connor, 2018).

Obviously, welfare programmes are meant to do good. They are intended, according to Błędowski (2018, p. 219), *to improve the functioning and security of the living organism that is society*. Unfortunately, wherever money appears, there are usually people trying to get it in ways that are not fit for purpose. The result is the proliferation of various kinds of combinations and machinations. Therefore, the outcomes of the welfare state are divided into two categories: enhancing, and hazardous. The enhancing outcomes are intended, in line with expectations, and positive in nature. Hazardous outcomes, in turn, are unintended, and usually counterproductive. The problem is that each welfare programme naturally contains

economic incentives to participate, even without legal entitlement. This leads to 'benefit overuse' either through welfare abuse or welfare dependency (Deacon, 2002; Omers & Block, 2005).

These hazardous outcomes are the main reason for criticism of the welfare state. It is argued that welfare recipients naturally change their behaviour in order to obtain as much support as possible. Murray in his influential book *Losing Ground* (1984, p. 9), suggested that

The most compelling explanation for the marked shift in the fortunes of the poor is that they continued to respond, as they always had, to the world as they found it, but that we – meaning the not-poor and un-disadvantaged – had changed the rules of their world. Not of our world, just of theirs. The first effect of the new rules was to make it profitable for the poor to behave in the short term in ways that were destructive in the long term. Their second effect was to mask these long-term losses – to subsidize irretrievable mistakes. We tried to provide more for the poor and produced more poor instead. We tried to remove the barriers to escape from poverty, and inadvertently built a trap.

The issue of benefit morality emerged in contemporary academic discourse in the mid-1990s, prompted by a high-profile article *Hazardous Welfare-State Dynamics* by the Swedish economist Lindbeck (1995). In this article, he presented a theoretical model of a slow and long-term process of erosion of moral norms. Paraphrasing Say's Law, he argued that the supply of welfare benefits creates a demand for these benefits. The starting point of his analysis is the situation of the establishment of the welfare state and the implementation of various social programmes, which create a system of economic incentives to benefit from them. The effect of these incentives is initially countered by social norms that place a strong emphasis on self-sufficiency, individual foresight and a high work ethic. Individuals who are forced by a difficult life situation to take advantage of government assistance pay a high psychological price for doing so, experiencing discomfort and distress. However, some people give in to temptation and change their ways, breaking general (unwritten) rules. Initially, this applies to a very small group of people, but other individuals (copycats, imitators) systematically join them. Over time, this group becomes so large that, at some point, it forms a 'critical majority.' This is an argument to justify a change in behaviour for the others. Internal sanctions become less and less effective, whilst the use of social benefits becomes the norm rather than the exception. Even stricter legislation and more controls cannot stop this process. In fact, such repression is counterproductive and accelerates the process. First, administrative action sends a clear signal that breaking old norms has become commonplace. Second, formal sanctions limit individual freedom of action and crowd out the intrinsic motivation to respect old rules.

The issue of benefit morality, and in particular welfare abuse was the subject of a research project entitled 'Social, economic and cultural determinants of the use of welfare benefits: an analysis of the problem in the context of benefit morality'. It was carried out between 1 March 2022 and 31 October 2022 by a team of researchers from the Department of Sociology and Social Policy at Wrocław University of Economics and Business, consisting of Łukasz Jurek (project manager), Krystyna Gilga, Stanisław Kamiński, Joanna Szczepaniak-Sienniak and Paweł Żuk. The source of funding for the project was the university's programme of scientific and research excellence INTEREKON¹.

The research project had two main objectives: theoretical and empirical. The theoretical objective was to conceptualise the basic understandings and define a theoretical framework for the study of benefit morality. The empirical objective, on the other hand, concerned the identification of the social, economic and cultural factors influencing the propensity to use welfare benefits, both in terms of their abuse and refraining from using them.

This chapter presents selected findings of this project. It should be noted that the problem of welfare abuse, although very important and up-to-date, has not yet received the attention it deserves from researchers (especially in Poland and other countries in the region). There are many assumptions and theoretical considerations, but with limited empirical support. Even Lindbeck (2004) admitted that theory and speculation far outstrip systematic research in this area.

6.2. Welfare Abuse: A Theoretical Approach

Welfare abuse is a complex and multidimensional concept. In general, it refers to any action that is contrary to the rules of the social security system and that goes against the collective interest of its participants (citizens). They can be divided into: internal abuses, which are committed by internal actors, i.e. those who administer the system, and external abuses, which are the result of the actions of external actors, namely the clients of the system. In terms of who the external stakeholders (customers) are, abuses can be divided into those committed by individual customers (individuals) and those committed by institutional customers (companies). Furthermore, in terms of the type of abuse perpetrated by the external stakeholders (customers), they can be divided into abuse related to 'contributing' to the system (paying public levies) and abuse related to 'benefiting' from the system (collecting benefits).

¹ The project is financed by the Ministry of Science and Higher Education in Poland under the programme 'Regional Initiative of Excellence' 2019-2022 project no. 015/RID/2018/19, total funding amounts 10 721 040,00 PLN.

European Union documents (European Union [EU], 2024) on welfare abuse distinguish between the concepts of fraud and error. Fraud is any act or omission intended either to obtain a benefit from a social security scheme or to evade an obligation to pay public contributions to maintain that scheme, in accordance with the legislation of the Member State concerned. An error, on the other hand, is an unintentional mistake or omission on the part of officials or citizens.

This study focused on irregularities committed by individuals in the use of benefits. Welfare abuse is defined as non-compliance with the rules (formal and informal) governing both access to benefits and their use. It is therefore concerned with various practices (actions or inactions) that lead to the excessive – in relation to one's entitlement – receipt of benefits, as well as the inappropriate, i.e. not intended, use of these benefits.

These practices are a manifestation of pathology in the use of benefits. They are either illegal, meaning they violate specific legal norms, or they are within the limits of the law, but they violate good manners and the principles of social coexistence. It is therefore not just a matter of criminal offences, but of any irregularity that goes against the elementary sense of justice and is detrimental to the general interest of society. This broad catalogue therefore includes, among other things, actions involving the exploitation of entitlements as well as operating on the fringes of the law (e.g. exploiting legal loopholes).

Taking into account the type of irregularity, welfare abuse can be divided into three categories, as shown in Fig. 6.1.

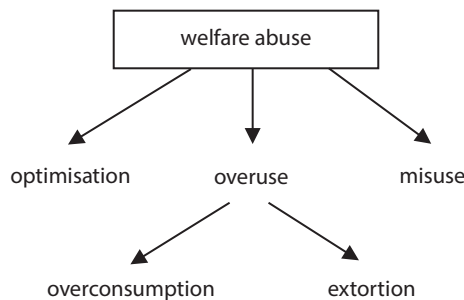


Fig. 6.1. Categories of welfare abuse

Source: (Jurek, 2022).

The first category of abuse is optimisation. It involves a sham reality, arranging one's life situation in terms of the criteria for granting certain benefits. Within the framework of this arrangement, a real modification is made in order either to meet the formal requirements for obtaining a benefit or to increase the value of the benefit

already received. An example of this would be a change of gender for the sole purpose of obtaining pension rights earlier. It can also be welfare migration, which is a specific form of migration carried out in order to receive higher benefits.

Optimisation mainly refers to modifying the family, material and/or employment situation. In the context of the family situation, optimisation can be the deliberate illegitimation of a relationship or getting a fictitious divorce just to receive benefits dedicated to single parents. In the context of the material situation, it may be optimising to conceal assets and/or income in order to receive benefits for the poor. As for optimisation in the context of the employment situation, it can be either avoiding formal employment for fear of losing unemployment benefits or, on the contrary, working fictitiously (employment contract or self-employment) just to acquire expected welfare benefits.

The second category of abuse is overuse. This problem can take two forms: (1) overconsumption or (2) extortion. Overconsumption is the natural result of a phenomenon known as moral hazard. The idea is that an individual covered by social security (as well as any other form of external assurance) changes his or her behaviour, resulting in irrational (excessive) use of available benefits (Arrow, 1963, pp. 141-148). As for extortion, it is the deliberate misrepresentation of a welfare institution in order to obtain undue benefits (Kukuła, 2016).

Both overconsumption and extortion come down to the same problem of overuse of benefits. What sets them apart, however, is the intention of the action. In the case of overconsumption, the problem is limited motivation to act prudently. The person is enjoying the benefits they are entitled to, but might as well not have to, as they use their entitlements only because they have the ability to do so and giving up benefits would not have any negative repercussions. Hence, this is a kind of waste. Extortion involves a violation of the law. A person knowingly and deliberately misleads a welfare institution in a clandestine manner (which makes detection difficult) and with the intention of personal gain. Fraud is also practiced: information is withheld or fictitious documents are used that have been either forged or obtained through corruption.

The last (third) category of abuse is misuse. Such situations occur when a person meets the conditions for receiving benefits and collects this benefit in the correct amount, but uses it in unauthorised way. This involves spending cash benefits (e.g. child allowances) contrary to the intention of the benefit provider, i.e. on the purchase of inappropriate goods and services (e.g. alcohol or gambling). It also involves selling in-kind benefits such as food, medicines, and welfare vouchers in order to purchase other goods or services.

It should be noted that the boundary between the different categories of abuse is blurred and fluid. Moreover, irregularities can accumulate and form 'conglomerates' of welfare abuse. This can occur, for example, when a person deliberately gives up work

in order to obtain welfare benefits (optimisation) and then, while still unemployed, takes a job in the hidden economy (extortion) and spends the benefits on gambling and drugs (misuse).

6.3. Studying Welfare Abuse: Opportunities and Limitations

By its very nature, welfare abuse is difficult to capture empirically. The main reason for this is the blurred line between legitimate and illegitimate use of benefits. This boundary lies, as McKeever (2012) figuratively put it, between need and greed. In some cases it is extremely difficult to assess whether the use of benefits is actually necessitated by the materialisation of social risks or is rather a manifestation of fraud or work shirking.

The welfare state has created a special administrative apparatus to check whether benefits are being used legitimately and legally. If irregularities are detected, appropriate sanctions prescribed by law are imposed on the fraudulent recipient. The results of such control mechanisms are an important source of information on welfare abuse. Unfortunately, there is a serious risk of underestimating the overall scale of the problem. This is because such data do not represent the actual number of cases of abuse committed, but only the number of cases detected. The relations between the two figures, i.e. the number of cases of abuse committed and the number of cases of abuse detected, is unknown and depends on a number of factors, including in particular the frequency and quality of the checks carried out.

The lack of reliable data from public sources forces the search for information in other ways. One possible method of assessing the situation is through surveys, which naturally has its advantages and disadvantages. The main problem is that the information obtained in this way does not represent the actual situation, but only the statements of the respondents, and these may differ to a greater or lesser extent from the actual situation. The discrepancies between the actual and the declared state of affairs can be particularly large when the matter under investigation (as here) concerns difficult and morally questionable issues (Bostyn et al., 2018). Nevertheless, even in such cases the use of the survey method can be legitimate, provided that the questionnaire is properly constructed and the questions asked of respondents are properly formulated.

Clearly, in such surveys the respondents should not be asked about their propensity to commit fraud, or about their personal experience in this area. Even with anonymity, the honesty of responses to such questions is highly questionable. It should be borne in mind that some respondents may (wrongly) equate a survey with a form of administrative control. Therefore, they will be reluctant to come forward if

their opinions or experiences are contrary to the law. Moreover, if dishonest behaviour is associated with something shameful or evil, they will try to hide it, regardless of the circumstances.

Questions about irregularities must therefore be asked in a disguised form in order to minimise the respondents' concerns and discomfort. It is assumed that in such situations, the questions should address the level of justification of irregularities. This makes it possible, firstly, to determine the degree of social permissiveness, i.e. the excessive even toleration of incorrect behaviour, and, secondly, to identify certain (conscious or unconscious) inclinations to commit these irregularities personally. It is accepted that the answers to this type of question are an indicator of personal predisposition to commit abuse. This is because it can be assumed that if a respondent declares a high level of justification for an unethical practice, e.g. abuse of sick leave, they are also inclined and able to carry out such practices personally. The survey therefore examines statements that relate directly to the values, but also (indirectly) to the behaviour.

6.4. Attitudes to Welfare Abuse in Light of International Surveys

Attitudes towards welfare abuse have been the subject of many research projects. In terms of international research, two such projects should be mentioned: the European Social Survey and the World Values Survey.

The European Social Survey addressed this topic twice – in 2008 (round 4), and in 2016 (round 8), where the rotating part concerned welfare attitudes. From the perspective of this research objective, the key question was whether the respondents agreed or disagreed with the following statement: *Many people manage to obtain benefits and services to which they are not entitled*. The responses were marked on a five point scale from strongly agree to strongly disagree. The results are shown in Table 6.1.

Table 6.1. Results of the European Social Survey (rounds 4 and 8) on the opinion that many people claim benefits to which they are not entitled (in %)

Country	Round 4 (2008)					Round 8 (2016)				
	1	2	3	4	5	1	2	3	4	5
Austria	•	•	•	•	•	18.2	42	22.7	12.5	4.7
Belgium	11	48	23.2	16.9	0.9	14.1	45.2	23.7	15.5	1.4
Bulgaria	28.1	46.7	15.5	8.3	1.4	•	•	•	•	•
Croatia	25.7	57.8	11.2	4.8	0.6	•	•	•	•	•
Cyprus	17.4	54.7	16.5	10.9	0.4	•	•	•	•	•

Table 6.1, cont.

Czechia	23.4	37.2	21.6	13.8	4	26.1	42.9	19.6	9.5	1.9
Denmark	3.4	31.6	33.5	29	2.5	•	•	•	•	•
Estonia	6.9	40.5	28.5	21.5	2.6	5.5	37.5	34.3	20.5	2.2
Finland	7	38.9	30.6	21.6	2	4.9	37.7	29.1	26.7	1.6
France	20.4	44.1	18.1	13.6	3.7	22.3	47.1	15.5	11.3	3.8
Greece	26.8	47.6	17.6	6.7	1.4	•	•	•	•	•
Spain	20.8	46.9	17	13.6	1.6	17.1	49.2	12.6	16.3	4.8
Netherlands	4.5	46.6	25.2	23.2	0.5	6.8	45.4	22.2	24.6	1.1
Ireland	15.9	60.2	12.9	10.8	0.2	18.2	47	15.5	16.9	2.3
Iceland	•	•	•	•	•	9.2	46	22.8	20.5	1.5
Israel	20.5	45.7	18.4	13.4	2	16.4	41.2	27.6	13.3	1.5
Lithuania	•	•	•	•	•	11.8	37.1	35.7	13.9	1.5
Latvia	12.9	42.5	26.8	16.4	1.4	•	•	•	•	•
Germany	10	58.5	18.5	12.1	0.9	7.7	52.6	19.4	18.4	1.8
Norway	4.3	45.7	28.7	20.2	1	4.7	38.6	31.4	23.9	1.4
Poland	15	63.5	14.5	6.7	0.4	18.1	56	17	7.9	1
Portugal	14.9	47.6	20.6	15.2	1.7	8.6	54	15.4	20.5	1.6
Russia	12.3	38.6	29	17.5	2.5	8.3	33.1	34.5	17.1	7
Romania	25.2	43.2	22.4	7.7	1.5	•	•	•	•	•
Slovakia	16.3	53.5	21	8.1	1.1	•	•	•	•	•
Slovenia	12.4	59.6	16.3	10.6	1.1	14	53.7	16.7	14.3	1.4
Switzerland	7.6	48.2	19.8	22.7	1.7	6.6	44.4	24.8	22.4	1.9
Sweden	5.5	45.4	25.7	21.8	1.6	4.9	39.5	29.2	23.5	2.8
Türkiye	36.6	48.1	11.1	3.6	0.4	•	•	•	•	•
Ukraine	31.6	31.6	19.5	11.6	5.7	•	•	•	•	•
Hungary	39.3	42	14	3.8	0.9	19.1	43.4	25.4	9.6	2.5
Great Britain	16.3	60.2	14.6	8.1	0.8	13.1	50.6	20.3	15.3	0.8
Italy	•	•	•	•	•	28	49.4	16.2	5.6	0.9

1 – agree strongly; 2 – agree; 3 – neither agree, nor disagree; 4 – disagree; 5 – disagree strongly.

Source: own study based on (European Social Survey European Research Infrastructure (ESS ERIC), 2023).

The results vary considerably from country to country. The respondents in Croatia, Hungary and Italy are most likely to agree with the statement that many people claim benefits to which they are not entitled, whereas in Denmark, Finland, Sweden and Switzerland they are most likely to disagree, but the percentage of those who disagree is lower than the percentage of those who agree. This means that despite

relatively high levels of trust in the ethical behaviour of benefit claimants (compared to the other countries surveyed), there is still a predominance of the respondents who believe that many people commit various types of irregularities and schemes when claiming benefits.

The second international study to examine attitudes to welfare abuse is the World Values Survey and European Values Survey. From the perspective of this study, the key question was how justified the respondents feel it is: *Claiming government benefits to which you are not entitled*. The responses were given on a ten-point scale from 1 ('never justified') to 10 ('always unjustified'). Table 6.2 shows the results of the seventh wave of the survey.

Table 6.2. Results from the World Values Survey and the European Values Survey (wave 7) on whether it is justified to claim welfare benefits to which one is not entitled (in %)

Country	Never justifiable Always justifiable									
	1	2	3	4	5	6	7	8	9	10
Albania	93.9	1.6	1.1	1.1	1.1	0.2	0.4	0.2	0.2	0.2
Andorra	68.1	8.4	6.4	4.1	6.1	2.2	0.8	1.7	0.4	1.2
Argentina	34.4	6.3	4.5	5.6	11.8	5.4	5.1	7.9	5.8	10.1
Armenia	62.3	7.7	5.5	3.9	5.7	2.9	2.6	2.5	1.3	4.5
Australia	67.3	10.7	7.2	2.8	4	2.2	1.4	0.9	0.7	1.8
Austria	61.3	11.9	10.8	3.8	3.9	2.5	2.3	1.7	0.3	0.5
Azerbaijan	49.4	18.7	9	5.8	4.4	1.1	2.1	1.5	1	2
Bangladesh	55	17.4	12.5	8.2	3.9	1.4	0.2	0.4	0.2	0.8
Belarus	37.2	11.2	10.8	8.8	12.3	4.8	5.2	2.4	1.1	1.9
Bolivia	21.6	7.6	7	6.5	12.5	8.1	8.7	9.5	3.9	11.5
Bosnia and Herzegovina	77	7.5	4	1.3	3.5	1	0.1	0.7	0.3	2.6
Brazil	66.5	3.8	3.3	2.9	8.2	3.4	1.7	1.2	0.6	5.3
Bulgaria	77.7	6.3	3.4	2.5	2.9	2.2	1.2	0.7	0.3	1.5
Burma	40	9.1	10.2	5.8	12.1	3.2	3.1	4.7	3.7	8.2
Canada	59.2	11.6	8.2	4.3	6.4	3.5	2.3	2	1.1	1.2
Chile	23	5.5	5.1	11.7	14.8	12	7.8	8.1	2	6.7
China	36.3	11.3	12.1	7.9	12.8	5.8	4.6	4	1.2	3.5
Columbia	47.9	4.2	4.3	4.3	12.8	5.1	3.2	3	2.1	13.2
Croatia	74	6.3	4.5	2.1	5.9	2.2	1	0.9	0.4	1.6

Table 6.2, cont.

Cyprus	70.2	5.6	5.3	3.6	6.5	2.6	1.3	1.2	0.5	1.4
Czechia	47.8	12.6	9	5.9	9.9	4	3.2	2.5	1	1.6
Denmark	69.1	13.2	7.1	2.8	3.1	1.3	1.5	1	0	0.8
Ecuador	28.9	5.8	5.6	7.2	18.1	7.7	6.6	7	2.6	8.8
Egypt	67.1	9.1	8.2	3.8	2.9	1.3	1.2	0.6	0.3	0.7
Estonia	64.8	9.4	5.7	2.7	6.3	1.8	1.2	1.1	0.3	1.8
Ethiopia	88.7	2.5	1.4	0.3	0.3	0.2	0.1	0.2	0.7	5.2
Finland	52.1	17	11.6	5	5.4	1.9	1.5	1.9	0.4	1.1
France	31.4	11.1	11.2	7.6	14.9	5.6	6	5	1.9	3.4
Georgia	60	11.1	6.5	5.7	8	1.9	1.4	1.5	0.8	1.5
Germany	74.7	11.2	6.1	2	2.1	0.7	0.6	0.3	0.2	0.8
Greece	71.9	13.7	5.1	3.2	2.9	0.9	0.9	0.5	0.1	0.2
Guatemala	32.7	6.9	6.2	7.3	14.3	9.4	5.3	5.2	3.2	7.7
Hong Kong	41.4	11.2	13.3	8.8	9.6	6.2	3.9	2.9	0.4	1.9
Hungary	80.7	6.6	4	2.1	3.1	0.7	0.6	0.4	0.2	0.7
Iceland	71.5	12.5	6.9	2.5	2.4	1.5	0.6	0.3	0.1	0.8
Indonesia	39.5	12.1	11.8	8	9.1	3.5	3.8	2.4	2.3	6.8
Iran	38.8	9.4	8.3	4.1	17.9	3.2	2.7	4.3	1	8.3
Iraq	36.1	11	11.3	7	9.8	8.7	4.9	3.8	3.2	4.2
Italy	65.8	10.2	7.7	4.3	4.6	2.6	1.9	0.6	0.1	1.2
Japan	67.9	12.1	6.6	1.9	3	0.9	1	0.7	0.4	1.3
Jordan	55.2	7	5.7	4	8.2	3.7	3	2.2	1.6	7.6
Kazakhstan	39.3	11.1	8.8	6.7	8.5	3.8	3.7	3	2.3	7.1
Kenya	42.1	10.2	8.8	7	8.5	6.5	4.3	2.4	2.5	5.3
Kyrgyzstan	57.7	2.6	1.9	1.9	14.3	1.7	2.1	1.2	0.6	9.7
Latvia	50.8	11.6	12.7	5.3	7.2	2.2	1.8	1.2	0.8	1.9
Lebanon	32.5	16	10.8	9.8	6.8	5	6.8	6.2	2.8	1
Libya	68.6	3.8	2.1	2.4	3.5	1.2	1.3	1.5	2	9.6
Lithuania	47.2	13.4	8.7	6.4	10.1	4.5	3.5	1.4	0.3	0.9
Macau	42.2	13.5	13.9	7.8	9.7	6.2	3.2	2.3	0.5	0.6
Malaysia	21.2	7.3	10.9	10.2	14.6	16.8	5.6	6.4	3.4	3.5
Maldives	77.9	5.3	3.4	2.1	3.5	1.8	1.8	1.3	0.6	2.1
Mexico	26.6	8.9	8.1	4.4	12.3	6.5	8.1	7.8	4.3	11.7
Mongolia	26.4	7.1	9.3	12.3	27.4	9.2	3.6	2	0.7	1.8
Montenegro	55.5	15.1	11.7	3.9	7.7	2.4	0.7	0.5	0.3	0.9
Morocco	39.8	10	8	4.5	11.2	6.2	4.8	5.5	4.3	5.6

Netherlands	68.8	12.4	5.7	2.3	2.2	1.3	0.7	0.3	0.3	0.6
New Zealand	62.8	13.1	7.7	2.7	3.1	2	2.2	0.8	0.3	1.7
Nicaragua	42.3	3.6	4.5	6.5	13.7	6.1	4.2	4.3	2.2	12.7
Nigeria	66.4	13.6	7.8	2.1	2.1	1.7	0.9	1.1	0.5	3.5
North Macedonia	66.9	8.2	4.5	3.5	6.3	2.5	2.2	0.5	0.1	1.1
Northern Ireland	59.4	14.6	8.6	4	7	0.7	1.4	1.9	0.2	1.8
Norway	60.3	16.2	7.9	2.6	6.7	1.9	0.9	1.3	0.2	1.4
Pakistan	63.2	6.5	3.4	3	4.4	2.3	2.1	2.7	2.9	7.1
Peru	35.5	14.7	9.7	6	8.4	6.2	4.5	5	2.2	4.5
Philippines	16.4	8.1	6.6	8.8	17.2	8.8	8	8.1	5.2	12.7
Poland	63.3	11.8	6.9	2.7	5.3	1.9	1.9	1.8	0.3	1.1
Portugal	60.5	13.3	10.1	3.2	5.4	1.7	1.5	1.4	0.1	1
Puerto Rico	72	2.8	2	2.3	5.5	2.8	1.8	1.6	0.4	7.8
Romania	66.8	6	5.4	2.9	5.5	3.4	1.6	1.3	1.1	3.2
Russia	32.9	8.6	9.3	6.9	11.9	6.9	6.1	4.3	1.8	6.8
Serbia	55.9	7	6.6	3.4	7.5	3	2.1	1.7	1.1	7
Singapore	52.7	13.2	7.6	4.3	11.5	3.7	2.4	1.8	0.6	1.7
Slovakia	30.9	14.4	12.2	9.2	12	5.6	5.2	3	1.3	4.7
Slovenia	54	15.3	12.4	5.1	6.6	2.4	0.8	0.7	0.2	0.9
South Korea	18.3	22.9	22.6	12.2	10.3	7	4.7	1.8	0.2	0.1
Spain	37.4	9.2	7.8	5.3	8.3	4.2	5.8	7.1	4.8	6.3
Sweden	62.6	14.2	8.7	3.3	4.3	1.6	1.9	0.7	0.4	0.7
Switzerland	59.9	14.8	9.1	3.4	5.5	1.4	1.6	1	0.6	1.4
Taiwan	32.7	15	17.7	8.7	14.5	4.5	3	1.9	0.5	1.5
Tajikistan	17.2	41.5	13.3	7.8	5.8	5.2	2.3	1.8	2.6	2.4
Thailand	58.2	9.7	9.8	6.7	7.9	2.4	1.7	1	0.1	1
Tunisia	56.2	10.1	7	4.1	5.4	3.4	2.7	3.6	2.6	4.1
Türkiye	73.6	5.5	5.3	4.2	2.9	2.7	2.3	1.9	0.7	0.3
Ukraine	44	8.5	6.7	7.1	9.5	4	4.6	4.7	1.6	3.2
United Kingdom	68.9	10.9	7	2.9	5	1.5	1.2	0.8	0.2	0.8
Uruguay	62.8	4.2	3.8	3.7	6.1	3.2	1.9	3.4	1.7	6.6
USA	52.5	12.9	7	4.5	10.1	3.7	2.1	1.5	1.2	3
Venezuela	38.8	0	17.2	0	16.4	0	0	15.5	0	12
Vietnam	13.2	7.9	13.7	17.6	12	20.9	4.1	3.4	1.8	5.4
Zimbabwe	74.1	6.9	2.1	2.1	2.4	2.1	1	1.1	1.6	6.3

Source: (Inglehart et al., 2024).

Attitudes to welfare abuse vary widely across the world. The percentage of responses to question 1, i.e. that abuse of benefits is never accepted, was highest in Albania (93.9%), Ethiopia (88.7%), Hungary (80.7%), the Maldives (77.9%), Bulgaria (77.7%), Bosnia and Herzegovina (77.7%), Bulgaria (77.7%), Bosnia and Herzegovina (77%) and Germany (74.7%). It is lowest in Vietnam (13.2%), the Philippines (16.4%), Tajikistan (17.2%), South Korea (18.3%), Malaysia (21.2%), Bolivia (21.6%) and Chile (23%). Poland is a country with moderate social morals. The percentage of responses to option 1 ('never justified') is 63.3% and to option 10 ('always justified') is 1.1%. The weighted average of all answers is 2.04 and the standard deviation is 1.92.

6.5. Results of an Empirical Study on Attitudes Towards Welfare Abuse in Poland

The survey was conducted in the third quarter of 2002. The data were collected using the CAWI (Computer Assisted Web Interview) method. The territorial scope of the study covered the whole of Poland and the respondents were adult Polish residents.

The research sample included 1,512 respondents; the sampling frame consisted of nationwide panels of respondents. It can be assumed that the random nature of the sample provides grounds for generalising the results obtained. The maximum measurement error was $\pm 3\%$ at the 95% confidence level.

The questions to the respondents were formulated as follows: *Is it justified if someone...?* The level of justification was expressed on a four-point scale: never, sometimes, often, always. Each question concerned the level of justification for a specific situation in which a type of social abuse was committed. Eleven such situations were listed – four from the 'social optimization' category, four from the 'excessive use of benefits' category and three from the 'incorrect use of benefits' category. A detailed list of these cases is given in Table 6.3.

The results are presented in Table 6.4. In some cases, the level of justification of welfare abuse is surprisingly high. There are even three examples where more people justify irregularities than do not. The first of these cases is when someone registers as unemployed for the sole purpose of obtaining health insurance. This abuse enjoys the highest level of tolerance – it is justified (sometimes, often or always) by up to 62.4% of respondents. The second is when someone spends child benefit for purposes other than maintaining a child – such behaviour is justified by 53.4% of respondents. The third case is when someone is fictitiously employed in a company just to get social security – such behaviour is justified by 51.7% of respondents. In all these three situations, excusing abuse is the norm, not the exception.

Table 6.3. Welfare abuse by category

Category	Welfare abuse
Optimisation	1) concealment of assets and/or income in order to obtain benefits for the poor 2) deliberately illegalising a relationship or getting a sham divorce in order to collect single parent benefits 3) avoiding legal work for fear of losing welfare benefits 4) fictitiously employing oneself only to obtain benefits from social insurance
Overuse	5) using a fictitious certificate of incapacity to work in order to obtain a disability pension 6) receiving unemployment benefit despite having worked illegally or abroad 7) registering as unemployed just to obtain health insurance 8) claiming the same welfare benefits in different countries
Misuse	9) using child allowance for purposes other than child maintenance 10) selling benefits received in kind to purchase other products or services 11) using sick leave for purposes other than treatment and convalescence

Source: own elaboration.

Table 6.4. Tendency of respondents to justify social abuses (in percent)

Is it justified if someone:	Never	Sometimes	Often	Always
Registers as unemployed only to obtain health insurance	37.6	41.4	11.8	9.3
Allocates child allowances for purposes other than maintaining the child	46.6	39.6	9.4	4.4
Pretends to be employed by a company in order to obtain social security benefits (e.g. a pregnant woman is employed in order to benefit from sick leave and maternity leave).	48.3	41.3	6.5	4.0
Uses sick leave for purposes other than treatment and convalescence (e.g. housework or leisure)	53.3	34.6	7.7	4.4
Avoids legal work for fear of losing welfare benefits	61.9	28.8	6.2	3.1
Intentionally not legalizing the relationship or getting a fictitious divorce to collect single parent benefits	62.2	28.6	5.7	3.5
Applies for the same welfare benefits (e.g. child allowances) in different countries	64.0	27.1	5.2	3.7
Receives unemployment benefits, despite working illegally or abroad	72.5	20.8	3.9	2.8
Sells the in-kind benefits (e.g. Food) in order to purchase other products or services (e.g. cigarettes, alcohol, gambling)	76.1	18.1	3.9	2.0
Hides own wealth and/or income in order to receive benefits for the poor	80.2	14.9	3.0	1.9
Uses a fake (forged or obtained through corruption) certificate of incapacity to obtain a disability pension	86.6	10.8	1.7	0.9

Source: own elaboration.

In the remaining cases, the percentage of the respondents justifying the abuse was lower than the percentage of those not justifying it, but still quite high. Sick leave abuse is tolerated by almost half of Poles. More than a third of Poles justify avoiding legal employment for fear of losing benefits, illegalising a relationship or faking a divorce in order to receive single parent benefits and applying for the same benefits in different countries. About a quarter of Poles tolerate receiving unemployment benefits while working illegally or abroad, as well as selling the received benefits in kind in order to buy other products (e.g. alcohol) or services. One person in five justifies hiding assets and/or income in order to obtain benefits for the poor. The least tolerance is shown towards the use of a fictitious (forged or obtained through corruption) disability certificate in order to obtain a disability pension. Despite the fact that such an action is an obvious form of extortion, it is justified by almost one in seven respondents.



6.6. Conclusions

The concept of welfare abuse covers a wide range of pathological behaviour towards the social security system, stretching from minor offences to serious crimes. Each of these acts, regardless of its seriousness, is a sensitive issue from a social policy perspective. Serious crimes always cause the greatest losses, but they are generally quite rare. On the other hand, petty crimes, although they cause relatively small losses each time, when committed on a massive scale, can significantly reduce the effectiveness of the system and impede its functioning.

In Poland the issue of welfare abuse has not yet attracted much interest among either theorists and practitioners of social policy, hence the extent of this problem is unknown. There is no reliable information on which benefits are being misused and under what circumstances. Such a lack of understanding of the issue appears completely incomprehensible, especially as it is a potentially very serious social and economic problem. If one assumes that the level of crime in the social security system is similar to that recorded in the commercial insurance sector (approximately 10% of benefits paid), it can be assumed that tens of billions of Polish zlotys are extorted from various state social institutions every year. Without proper knowledge of the manifestations and conditions of this problem, it is difficult to combat it effectively.

The experience of many Western countries shows that the fight against social abuse is mainly stimulated by the mass media, which monitor and publicise various cases of irregularities. In this way, they shape the course of public affairs and impose priorities on the public debate. This was the case, for example, in Germany where, from the beginning of the 21st century, shocking examples of social welfare and unemployment insurance fraud were revealed in newspapers and on television

(Hartz IV). The welfare state began to be pejoratively portrayed as a 'cash cow' and welfare benefits as a space for intrigue and machinations (Lehnert, 2009).

How benefit morality is changing was recently demonstrated by Herderschee's statement to the parliamentary committee on fraud in policy and services (Netherlands):

Over the last 20 or 30 years, social security seems to have become synonymous with fraud. [...] In 1965, Klompé's social assistance programme was implemented. She said: 'It should be a decent benefit for people who have fallen through the ice [...]'. And you know what? There was no means test in that welfare legislation. There was no fraud test against abuse in it. After all, who would get it into their head to abuse a system for the poorest and neediest? (*Verslag...*, 2023).

The fight against welfare abuse is an important and topical issue in many countries today. Public administrations are developing and implementing many initiatives in that field. In the Republic of Ireland, the Department of Social Protection initiated in 2017 a fraud awareness (anti-fraud) campaign 'Welfare Cheats Cheat Us All' (Devereux & Power, 2019). Other countries try to work out solutions based on advanced technology. In the Netherlands, an automated welfare fraud detection system, called SyRI, was introduced in 2003. At that time, several Dutch administrative bodies agreed to cooperate and exchange data in order to reduce fraud. The technical infrastructure and associated procedures were put in place to link data to generate risk notifications, i.e. to flag an individual as worthy of investigation in relation to possible fraud, irregularities and non-compliance (Van Bekkum & Borgesius, 2021). Similarly, Canada recently introduced a digital anti-fraud software programme called SAMS (Social Assistance Management System). It serves to individualise the 'problem' of poverty through the spectrum of fraud and uses an ever-widening web of surveillance practices, sharing collected data across multiple government platforms (Dobson, 2019).

In Poland, both awareness of the problem of welfare abuse and remedial action are still poorly developed, however it can be expected to change rapidly. Increasing the effectiveness of the social security system requires decisive action in this field. To be effective, these measures must be based on reliable information, hence the need for research. The findings presented here should only be treated as an introduction to further, more in-depth and advanced research projects.

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PART 2

Shaping Digital Competencies and Conducting Research in the Era of Technological Progress



CHAPTER 7

The Digital Catalyst for Sustainable Development in Europe: E-Government Perspective

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Quote as: Mempel-Śnieżyk, A. & Hlaváček, P. (2024). The Digital Catalyst for Sustainable Development in Europe: E-Government Perspective. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 111-124). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.07](https://doi.org/10.15611/2024.92.5.07)

Abstract: The aim of the research was to assess the progress of e-government in EU countries and the extent to which it is linked to sustainable development. To this end, indices were used, namely the E-Government Development Index (EGDI) and Sustainable Development Goals (SDGs), to identify whether there are links between e-government development and sustainability. At the same time, the chapter highlights geographical links. Although the links between e-government development and sustainability development were identified in the chapter, there are differences in Europe, especially in northern and western countries compared to the group of south-eastern countries. It is also necessary to understand the underlying factors contributing to these disparities in order to ensure the balanced development of society, as well as from a sustainability perspective.

Keywords: e-government, digitalisation, sustainable development, Sustainable Development Goals (SDGs)



7.1. Introduction

In an era where the digital revolution is reshaping the contours of governance and development, the chapter presents the trajectory of e-government evolution within Europe. The essence of this exploration lies in tracing developmental strides, as reflected in the E-Government Development Index (EGDI), and comparing them with

advancements in Sustainable Development Goals (SDGs) indexes. The study's pivotal intent is, firstly, to visually narrate the progress of e-government via a comparative analysis; secondly, to scrutinise the SDG index score shifts and discern regional patterns of development; and thirdly, to explore the relationship between the two indices to understand how advancements in e-government may correlate with achievements in sustainable development objectives. Moreover, comparing the Sustainable Development Goals index score (SDG index score) and particular goals (SDGs indexes) is critical in assessing global and regional progress towards meeting the comprehensive set of goals established to address the world's major social, economic, and environmental challenges. The chapter's contribution is to extend the body of knowledge on global trends such as ongoing digitalisation and sustainable development by examining if e-government development relates to sustainable development. By examining the changes in the SDG index score, one can identify areas of improvement, stagnation, or regression, which in turn can inform policy decisions and prioritise areas for intervention. The study paves a path to understanding the digital undercurrents which are increasingly becoming synonymous with efficient governance and public sector innovation. An additional value of this study is mapping and showing of the differences in e-government development and level of SDGs achievements across EU countries.



7.2. Increasing the Role of Digitalisation in the Public Sector

Technology changes, as well as digitalisation processes, have become features of the current economy. The Internet has become the ubiquitous tool which facilitates the functioning and exchange of information, not only for enterprises, but also for individuals. The fast development of information and communication technologies (ICTs) as new forms of economic prosperity, are based on the transfer of information and knowledge (Dabinett, 2001).

Digital transformation, which is essentially the impact of digital technology on economies and societies, is paving the way for the next stage of development through the use of AI (see Fig. 7.1). This opens up new possibilities, particularly in terms of boosting productivity and enhancing the well-being of all citizens, while striving to achieve sustainable development goals.

Throughout the late 20th century, scholars drew attention to the potential of global information exchange facilitated by advancements in computer communication technologies (Webster, 2006). The relation between information and communication technologies (ICT) infrastructure and the economy was thoroughly examined by Piore and Sabel (1984), emphasising the critical connection between technology and market dynamics.

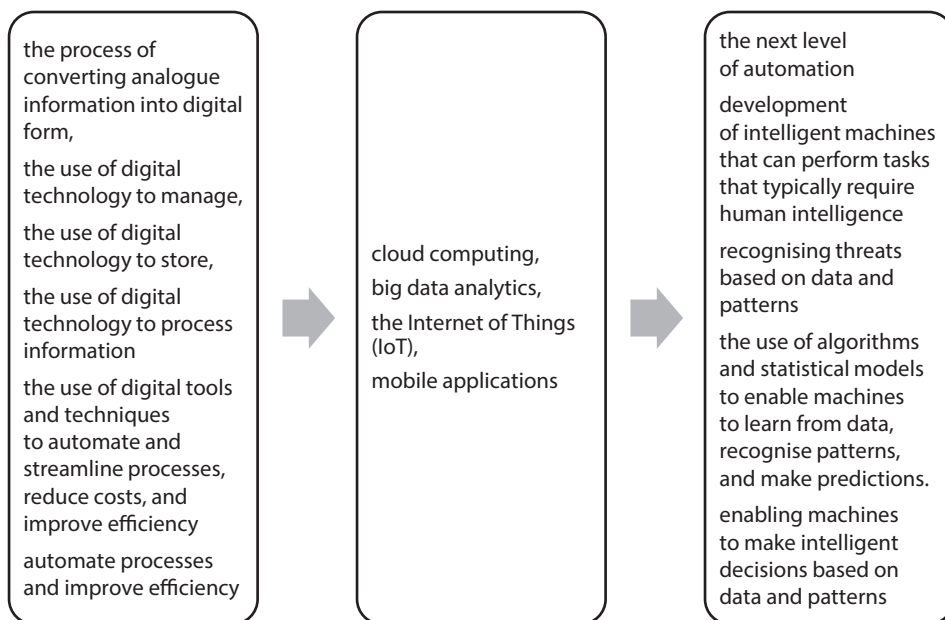


Fig. 7.1. From digitalisation to artificial intelligence implementation

Source: own elaboration based on (Van Noordt et al., 2020).

The concept of digitalisation signifies the progressive augmentation of digital data accessibility (Brennen & Kreiss, 2016). The concept of digital infrastructure (DI) can be explored from two distinct perspectives (Barns et al., 2017). The initial approach characterises DI as the technical framework responsible for delivering digital communications to urban centres and regional areas. The second perspective refers to the role of government as a catalyst and facilitator of data-driven services. In general, DI can be divided into hardware, software, storage technology and communication technology (Rozikin et al., 2023).

DI is becoming more and more essential, particularly when it comes to providing and leveraging public sector services for citizens (Dečman, 2018). This growing importance is supported by an OECD report (OECD, 2018) which outlines key strategies for improving digital society. This ongoing transformation in public administration manifests as local governments progressively enhance their service delivery mechanisms through the adoption of online platforms (as discussed by Veeramootoo et al., 2018). Sangki (2018) emphasised the pressing need for fresh and innovative approaches to government development. His pioneering e-government model is distinctive in its capacity to harmonise both technological and social paradigms and offers a holistic perspective on the evolution of e-government, acknowledging the interplay between technology and society (Sangki, 2018).

E-government is defined as using ICT, particularly the Internet, as a tool to achieve better government (OECD, 2003). E-government enables all actors conduct their activities more easily, rapidly, and cost-effectively, as well as being able to interact with government authorities (Teşu, 2012). With technological progress and the evolution of the ICT and Internet industries and attempts to measure and reflect the state of the economy and society, institutions collecting data present their indicators, which are often linked to qualitative research methods such as surveys or mystery shopping. An increasing number of governments are turning to the internet to deliver public services to their citizens (March, 2010).



7.3. Methods

In this study, in order to follow changes in the EDGI and the SDGs indices, a comparative visual analysis across European countries in 2010 and 2022 took place. To this end the author's own maps were employed. The study also assessed the relation between the EDG and the SDG index score and particular SDGs using the EGDI, which assesses e-government development at national level – secondary data available at the United Nations E-Government Knowledgebase (United Nations, 2022), collecting data connected with digitalisation all over the world. Secondly, the authors used the main SDG index scores and selected SDGs indexes available at the Sustainable Development Report platform, collecting data and presenting a yearly dashboard reflecting SDG indicators from countries all over the world.

First, the descriptive statistics (Appendix) were implemented to determine the basic properties of the distributions obtained: range (min-max), measures of central tendency (mean and median), and dispersion (standard deviation), measures of asymmetry and concentration (skewness, kurtosis). To check if distribution differed from theoretical normal distribution, Shapiro-Wilk tests were calculated, as suggested for a situation of a relatively small sample size (Bedyńska & Książek, 2012). Next, an analysis was conducted using Pearson's correlation based on the assumptions of parametric tests (George & Mallery, 2019). At the next level, Pearson's correlation was used to show the relation between the EDGI and the SDG index score and SDGs indexes; only for Goal 4 was it necessary to perform an analysis using Spearman's rho rank correlation. An analysis was performed on the population of European countries and not on a sample, so no statistical significance was presented as results are applied to the countries researched. The strength of the correlation was indicated by colours – negative relations were marked with blue colours, and positive relations were marked with orange-red colours (correlations of negligible strength (–0.1 to 0.1) were marked in white).

7.4. Results

To show changes and underline the increase of EDGI, two maps presented a comparative visual analysis of the EDGI across European countries in 2010 and 2022. By juxtaposing these maps, it was aimed to discern the progress and changes in e-government development. The comparison reveals significant developments and potential shifts in digital governance capacities and priorities among the nations (Figs. 2 and 3).

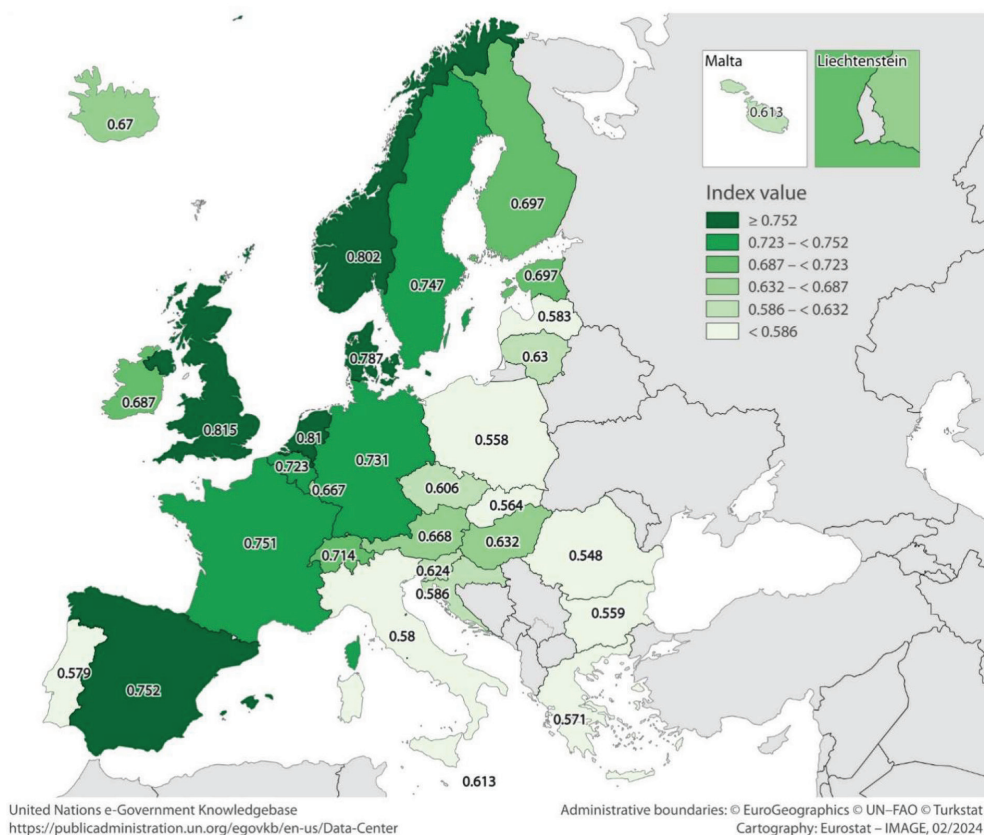


Fig. 7.2. EDGI index score in 2010

Source: own elaboration based on (United Nations, n.d.).

From the maps for 2010 and 2022, there is a noticeable overall increase in EDGI scores across nearly all countries depicted. This upward trend reflects a concerted effort towards improving digital government services, infrastructure, and policy frameworks. The index changes highlight substantial advancements, indicating a strengthened emphasis on integrating technology with public services to enhance accessibility, efficiency, and transparency. Such progress underlines the evolving role of e-governance as a fundamental component of public administration reform and a key facilitator of sustainable development and citizen engagement across the continent.

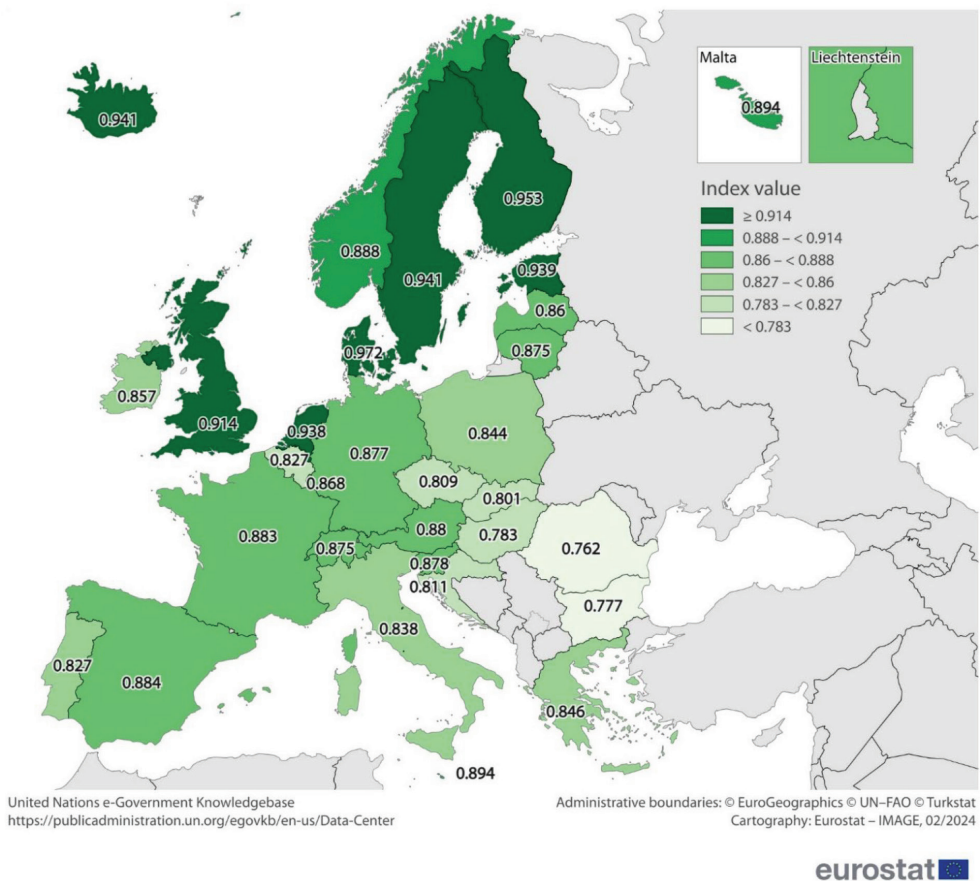


Fig. 7.3. EDGI index score in 2022

Source: own elaboration based on (United Nations, n.d.).

Additionally, the author compared the SDG index score changes (Figs. 7.4 and 7.5). Comparing the SDG index score is critical in assessing global and regional progress towards meeting the comprehensive set of goals established to address the world's major social, economic, and environmental challenges. By examining the changes in the SDG index from 2010 to 2022, one can identify areas of improvement, stagnation, or regression, which in turn can inform policy decisions and prioritise areas for intervention.

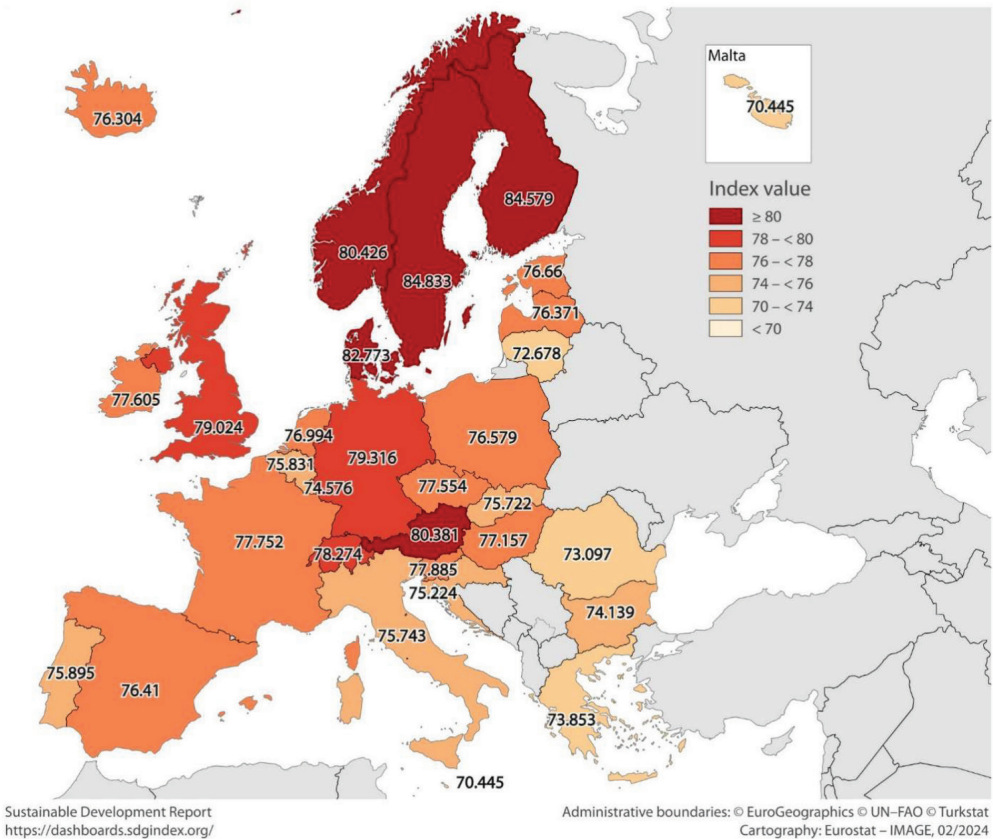


Fig. 7.4. SDG index score in 2010

Source: own elaboration based on (Sachs et al., 2023).

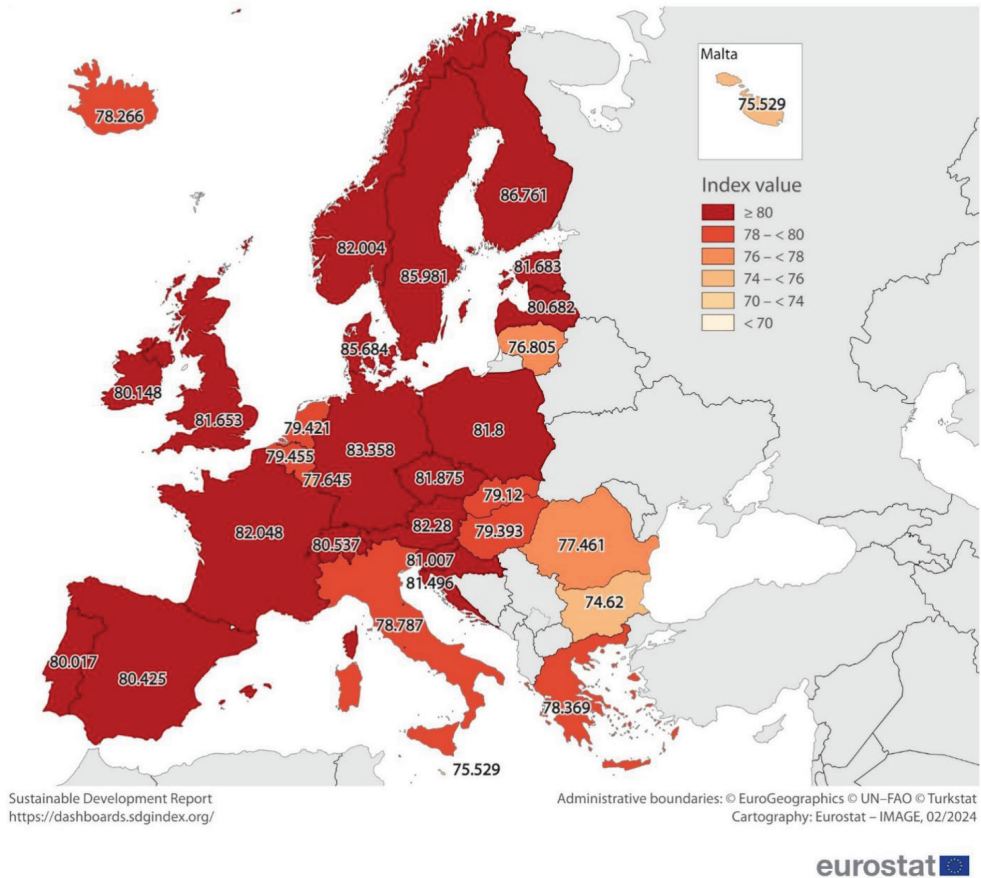


Fig. 7.5. SDG index score in 2022

Source: own elaboration based on (Sustainable Development Report 2024, n.d.).

The figures of the SDG index score for 2010 and 2022 show visible changes. By 2022, many European countries exhibited a marked improvement in their scores, with a general trend of progression towards the darker shades, indicating higher scores. This improvement suggests that there has been a concerted effort across the continent to address the goals set out by the SDGs, resulting in higher overall performance.

The analysis allowed for exploring not just the extent of the changes, but also how these two key indicators of progress – the EGDI and the SDG indexes – interact and possibly influence one another over time. Table 7.1 reveals pronounced

positive correlations between EGDI 2010 and Goals 3 (Good Health and Well-being), 5 (Gender Equality), 9 (Industry, Innovation, and Infrastructure), and 16 (Peace, Justice, and Strong Institutions). Notably, Goal 9 emerges with a striking correlation coefficient of 0.81, signalling a potent alignment between e-government development and initiatives aimed at building resilient infrastructure, promoting sustainable industrialisation and fostering innovation. These strong positive correlations suggest that advancements in e-government can significantly bolster efforts towards achieving these critical goals, highlighting the transformative potential of digital governance in enhancing public health, ensuring gender equality, driving sustainable industrial and infrastructural development, and fortifying the foundations of peace and justice. Conversely, the findings highlighted strong negative correlations between the EGDI and Goals 12 (Responsible Consumption and Production) and 13 (Climate Action). This inverse relation indicates that higher achievements in these environmental objectives might coincide with lower levels of e-government development, suggesting a potential reallocation of priorities or resources away from digital governance in favour of environmental sustainability. Other SDGs show weaker or moderate correlations.

Furthermore, the analysis for 2022 (Tab. 7.2) Goals 3 (Good Health and Well-being), 4 (Quality Education), 5 (Gender Equality), and 16 (Peace, Justice, and Strong Institutions) exhibit very strong positive correlations with the EGDI, with Goal 3's correlation being particularly notable at 0.70. This suggests a robust link between e-government development and advancements in health, education, gender equality, and the establishment of just societies, reinforcing the idea that digital governance mechanisms can significantly contribute to these areas.

Table 7.1. The relation between EDGI index and SDG index score and SDGs indexes (2010)

Scores	EGDI 2010
SDG Index Score	0.58***
Goal 1 Score	0.23
Goal 2 Score	0.26
Goal 3 Score	0.69***
Goal 4 Score	0.29
Goal 5 Score	0.69***
Goal 6 Score	0.36^
Goal 7 Score	0.20
Goal 8 Score	0.57**
Goal 9 Score	0.81***
Goal 10 Score	0.28
Goal 11 Score	0.53**
Goal 12 Score	-0.68***
Goal 13 Score	-0.66***
Goal 14 Score	0.16
Goal 15 Score	-0.23
Goal 16 Score	0.61***
Goal 17 Score	0.55**

Annotation: ^ result at the level of statistical tendency; $0.05 < p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; strength of correlation: 0.1-0.3 – weak correlation; 0.3-0.5 – moderate correlation; 0.5-0.7 – strong correlation; 0.7-0.9 – very strong correlation; >0.9 – nearly perfect and perfect correlation.

Source: own elaboration.

Table 7.2. The relation between EDGI index and SDG index score and SDGs indexes (2022)

Scores	EGDI
SDG Index Score	0.53**
Goal 1 Score	0.09
Goal 2 Score	-0.40*
Goal 3 Score	0.70***
Goal 4 Score	0.66***
Goal 5 Score	0.67***
Goal 6 Score	0.23
Goal 7 Score	0.42*
Goal 8 Score	0.17
Goal 9 Score	0.63***
Goal 10 Score	0.29
Goal 11 Score	0.45*
Goal 12 Score	-0.63***
Goal 13 Score	-0.47**
Goal 14 Score	0.31
Goal 15 Score	-0.20
Goal 16 Score	0.66***
Goal 17 Score	0.49**

Annotation: $0.05 < p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; strength of correlation: 0.1-0.3 – weak correlation; 0.3-0.5 – moderate correlation; 0.5-0.7 – strong correlation; 0.7-0.9 – very strong correlation; > 0.9 – nearly perfect and perfect correlation.

Source: own elaboration.

Moreover, Goal 9 (Industry, Innovation, and Infrastructure) continues to show a strong positive correlation with the EGDI (0.63), indicating a sustained emphasis on the synergy between e-government and the fostering of innovation and resilient infrastructure. Goals 2 (Zero Hunger) and 12 (Responsible Consumption and Production) stand out with significant negative correlations, -0.40 and -0.63, respectively. The strong negative correlation with Goal 12 is particularly striking, and could suggest a potential divergence between e-government development and sustainability practices in consumption and production. Goal 13 (Climate Action) also exhibits a notable negative correlation (-0.47), indicating a challenging relation between e-government development and climate action efforts. It is worth mentioning that other goals show a range of correlations from moderate to weak, indicating a complex relation between e-government development and these SDGs. Note Goal 17 (Partnerships for the Goals) with a correlation of 0.49, suggesting that e-government might play a role in enhancing partnerships for sustainable development.

7.5. Discussion and Conclusions

In the evolving landscape of global governance and sustainable development, the role of e-government stands out as both a catalyst for, and a mirror of broader societal goals. What results from e-government survey, digital government fosters collaboration, connection and sustainable development, and progress in e-government contributes to the achievement of many SDGs (United Nations, 2022). The authors' analysis, drawing upon the correlations between the EGDI and the SDGs, unveils a complex tissue of relations which underline the multifaceted impact of e-government initiatives. The relation between e-government development

and other SDGs exhibits a spectrum of weaker or moderate correlations, pointing to a more ambiguous and context-dependent interplay. These varied correlations imply that the impact of e-government on certain sustainable development objectives may be influenced by a constellation of other factors, including but not limited to policy frameworks, institutional capacities, societal norms, and economic conditions. The complex nature of these correlations emphasises the difficulty of aligning e-government strategies with the diverse and sometimes competing goals of sustainable development.

While the overall trajectory towards the SDGs appears positive, indicating advancements in areas such as quality of life, gender equality, and sustainable cities, the uneven progress across different regions stresses the need for targeted strategies. It is imperative to understand the underlying factors contributing to these disparities to support lagging regions and ensure that the progress is inclusive and sustainable. Looking towards the future, the SDG index serves not only as a measure of where we are, but also as a signpost for where we need to direct our collective efforts to achieve a sustainable future for all.

It can be said that the intricate web of correlations between e-government development and the SDGs highlights the dual role of digital governance as both a driver and as a reflection of societal progress towards sustainable development. The strong positive correlations with specific goals emphasise the potential of e-government to contribute meaningfully to the advancement of health, equality, innovation, and justice. Meanwhile, the negative correlations with environmental goals and the varied relations with other objectives call for a comprehensive, integrated approach which carefully navigates the synergies and trade-offs inherent in the pursuit of a sustainable future. Moving forward, it is imperative that policy-makers, practitioners, and scholars alike embrace a holistic perspective which recognises the complex, dynamic interrelations between e-government and sustainable development, ensuring that the digital transformation of governance serves not only the needs of efficiency and inclusivity but also the underpinning imperatives of sustainability.

The findings of this study highlight the imperative for a more in-depth examination of the intricate relations between e-government development and the SDGs. Future research could focus on identifying mediating factors such as public policies or education that influence this relationship. Understanding the conditions necessary for e-government to support sustainable development effectively is crucial. Future studies should also examine the long-term impacts of e-government and its integration with other sustainability initiatives.

Appendix. Descriptive Statistics for the Quantitative Variables in 2010 and 2022

2010	<i>M</i>	<i>Me</i>	<i>SD</i>	<i>Sk.</i>	<i>Kurt.</i>	<i>Min.</i>	<i>Max.</i>	<i>W</i>	<i>p</i>
SDG Index Score	77.14	76.65	3.21	0.64	0.96	70.40	84.80	0.95	0.168
Goal 1 Score	99.33	99.50	0.80	-2.31	7.33	96.20	100	0.77	< 0.001
Goal 2 Score	66.02	66.30	5.16	-0.49	-0.41	54.60	73.50	0.96	0.270
Goal 3 Score	88.05	90.25	6.32	-0.80	-0.54	74.80	95.40	0.89	0.005
Goal 4 Score	95.87	96.35	3.41	-2.55	9.46	81.80	99.80	0.78	< 0.001
Goal 5 Score	70.88	70.95	10.67	0.02	-0.38	48.10	90.30	0.98	0.818
Goal 6 Score	82.34	85	10.51	-1.59	2.82	48.80	95	0.86	< 0.001
Goal 7 Score	77.08	74.65	9.02	0.88	0.98	59.10	99.50	0.93	0.038
Goal 8 Score	80.16	81.15	4.82	-0.60	-0.40	68.50	86.20	0.92	0.034
Goal 9 Score	66.98	70.40	17.78	-0.08	-1.40	34.60	95.80	0.92	0.030
Goal 10 Score	88.18	88.40	9.86	-0.13	-1.61	73.40	100	0.88	0.002
Goal 11 Score	86.84	87.80	5.11	-0.63	0.95	73.10	96.60	0.96	0.270
Goal 12 Score	57.34	55.45	12.81	0.06	-0.66	35	80.90	0.97	0.456
Goal 13 Score	63.75	64.50	15.82	-0.94	1.43	17.70	89	0.94	0.073
Goal 14 Score	52.31	60.25	27.99	-1.06	-0.09	1	90.80	0.81	< 0.001
Goal 15 Score	79.67	79.35	11.64	-0.41	-0.52	54.20	97.90	0.97	0.444
Goal 16 Score	80.16	80.60	8.38	0.02	-1.13	67.50	95.80	0.95	0.191
Goal 17 Score	61.09	61.30	10.98	0.86	1	44.60	91.80	0.95	0.130
EGDI	0.66	0.67	0.08	0.29	-1.16	0.55	0.81	0.93	0.059

2022	<i>M</i>	<i>Me</i>	<i>SD</i>	<i>Sk.</i>	<i>Kurt.</i>	<i>Min.</i>	<i>Max.</i>	<i>W</i>	<i>p</i>
SDG Index Score	80.48	80.45	2.81	0.25	0.43	74.60	86.80	0.97	0.573
Goal 1 Score	99.43	99.50	0.56	−1.44	3.25	97.50	100	0.86	0.001
Goal 2 Score	66.75	67.60	4.98	−0.64	0.18	53.50	74.30	0.96	0.292
Goal 3 Score	91.20	92.75	4.94	−0.92	−0.02	79.30	97.10	0.90	0.010
Goal 4 Score	95.86	97.65	5.03	−2.35	4.97	79.50	99.80	0.66	< 0.001
Goal 5 Score	79.53	79.80	9.45	−0.56	−0.01	55.10	94	0.96	0.277
Goal 6 Score	83.01	85.40	10.25	−1.80	3.78	48.70	95.10	0.83	< 0.001
Goal 7 Score	79.58	77.20	9.40	0.41	0.81	56.50	99.60	0.93	0.043
Goal 8 Score	83.70	84.40	3.25	−1.09	1.55	73.80	88	0.92	0.035
Goal 9 Score	85.62	86.95	9.29	−0.37	−0.92	66.20	97.60	0.94	0.086
Goal 10 Score	87.84	89.45	11.39	−1.29	2.30	51	100	0.89	0.004
Goal 11 Score	88.53	89.70	5.68	−0.83	1.65	73.40	99.10	0.93	0.046
Goal 12 Score	58.38	58.50	11.71	−0.07	−0.95	37.70	79.20	0.97	0.548
Goal 13 Score	67.12	70.30	14.58	−1.16	2.05	20.70	87.20	0.92	0.028
Goal 14 Score	57.26	67.55	30.16	−1.20	−0.02	1	87.90	0.76	< 0.001
Goal 15 Score	81.88	82.25	10.45	−0.61	0.14	54.40	97.80	0.96	0.327
Goal 16 Score	81.90	81.60	8.22	−0.34	−0.90	64.90	93.80	0.96	0.254
Goal 17 Score	67.53	67.35	10.46	0.59	0.07	51.30	94	0.96	0.333
EGDI	0.87	0.87	0.05	−0.02	−0.57	0.76	0.97	0.97	0.648

M – mean; *Me* – median; *SD* – standard deviation; *Sk.* – skewness; *Kurt.* – kurtosis; *Min.* – minimum; *Max.* – maximum; *W* statistic and p-value (*p*) for the Shapiro-Wilk test.

Source: own elaboration.

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CHAPTER 8

Redefining Excellence: AI-Enhanced Digital Competencies in Tertiary Education

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Quote as: Svoboda, P. & Knihová, L. (2024). Redefining Excellence: AI-Enhanced Digital Competencies in Tertiary Education. In B. Drelich-Skulska, M. Sobocińska, A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 125-146). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.08](https://doi.org/10.15611/2024.92.5.08)

Abstract: This chapter explores how AI and the demand for new competencies are reshaping university teaching, with a focus on instructional design, newskilling, and curriculum modernization. AI offers personalized learning experiences, fostering critical thinking and deeper engagement with educational materials. However, this transformation requires educators to adapt through newskilling and integrate ethical considerations into teaching. The findings indicate that AI has the potential to revolutionize higher education by equipping students with future-ready skills while simultaneously emphasizing the importance of preserving humanistic values such as empathy and interpersonal connections in teaching.

Keywords: AI-enhanced digital competency, educational technology, instructional design, newskilling, curriculum innovation



8.1. Introduction

Integrating artificial intelligence (AI) into university teaching represents a major step towards modernising the whole educational process. This trend not only unlocks new possibilities for personalising teaching and increasing its effectiveness but also requires the development of new competencies helping the university teachers adapt to and thrive in an evolving educational landscape, fostering a more engaging and

insightful learning environment for students. Modernising curricula and designing teaching that reflects current and future challenges is becoming crucial for preparing students for professional life in a dynamically changing world.

The development of AI and its applications in higher education offer several benefits. For example, generative multimodal models such as ChatGPT 4 Plus enable an interactive form of learning that adaptively caters to students' needs and learning pace.

At the same time, integrating AI into the classroom promotes the development of critical thinking and analytical skills by exposing them to more complex problems and simulations that better reflect reality. Indeed, with the use of AI-driven instructional design applications, learning evolves into a truly immersive experience, and – from the viewpoint of pedagogy – immersive learning assumes its specific contours.

However, this shift means challenges, particularly in teacher preparation and training. Before using AI effectively in their teaching, teachers must be equipped with new competencies and a profound understanding of how to work with the new technology. This includes technical skills and the ability to reflect critically on the ethical and social aspects of using AI in education.

Therefore, curriculum modernisation has to go hand in hand with a teacher training programme to ensure the seamless integration of AI into teaching and help enhance all students' education quality. This process requires close collaboration among educational experts, instructional designers, technology developers, teachers, and educational administrators. Participation of teams from different fields will guarantee that curricula are relevant, up-to-date, and ready to meet future challenges.

Preparing teachers and students for the new realities of learning is essential. With AI present everywhere, students are expected to understand both AI and its huge potential and limitations. Teachers and their students must together navigate the information provided by generative multimodal models and other AI-driven tools. This means responding to what is presented to them, evaluating it, and making sense of it – only then can it be successfully integrated into their learning journey in a natural and productive way.

Education in AI literacy should include the ethical aspects of using AI as an integral part of the curriculum at all levels of study. Students will understand how AI and numerous AI-driven applications work. They can identify and address potential bias and other ethical dilemmas. An important step towards reaching this goal is to become familiar with the AI Act, adopted in March 2024. University study programmes will prepare students to use AI effectively and responsibly. It is believed that understanding AI and mastering its related skills are crucial for students to prepare for their future careers, arming them with the tools needed to navigate the professional world ahead.

Teaching AI literacy should go beyond just the technical, the ethical implications of AI use into the very fabric of the curriculum should be taught at every level of education. This includes not only grasping how AI and its myriad applications function but also equipping students with the critical thinking skills necessary to spot and tackle any biases and ethical issues that might emerge. A pivotal moment in this educational journey was the already-mentioned adoption of the AI Act in March 2024 (European Parliament, 2024), setting a significant milestone towards achieving this comprehensive understanding and application of AI.

Comprehending AI and honing the skills it encompasses are indispensable for students as they gear up for their professional career, providing them with the necessary tools to negotiate effectively the complexities of the future workplace.

At this point, it is also worth reflecting on the inevitable organizational changes that will necessitate an innovative instructional design, the teaching methods used and the entirely new nature of the interaction between teachers and students. In the context of organizational changes in higher education, design thinking offers enormous potential for innovation and process enhancement. This approach allows universities to react in a more flexible and creative way to rapid changes in the learning environment. Design thinking is predominantly based on empathy. This approach puts people at its heart, delving deep into what everyone involved truly needs and hopes for – be it students, teachers, and administrative staff. In this way, higher education institutions can adopt changes and design study programmes that are not only technologically advanced but also very sensitive to the social and pedagogical aspects of teaching.

Design thinking is an innovative approach to change management processes, and it allows universities to experiment with new forms of teaching and adapt the learning environment to the needs of the current generation of students. Simultaneously, it helps maintain the high quality of education and its accessibility. This approach also supports the development of multidisciplinary teams that work together to design and implement innovative solutions. The composition of these teams transcends traditional academic disciplines. One can start the process of integrating design thinking into the day-to-day operations of higher education institutions, and applying design thinking into the process of higher education, lay the groundwork for education systems that are adaptable, welcoming, and deeply rooted in the student experience. With this approach, equipped with a resilient and forward-thinking education, it will be possible navigate the meanders of the 21st century with self-confidence and curiosity.

Another key idea concerns the need to transform tertiary education. The current evolution of the educational environment and increasing external pressures require university teachers to adopt a positive attitude towards learning new skills and applying innovative methods of instruction (Walter, 2024). The dynamics of societal

development lead to reflecting critically on the current state of affairs and to adapting teaching processes to better fulfil the demands of modern times.

Even though the discussions on the necessity for innovation in higher education have persisted for quite a time, reactions to emerging trends tend to be slow. As early as the 1990s, there was a widely adopted positive approach towards interactive learning methods within universities. Nevertheless, the current situation finds us at a juncture where one must advance beyond those initial steps. Present times call for experiential and immersive learning as well as virtual reality and extended reality that inform and educate students and, more importantly, engage them in the learning process more profoundly and frequently. It motivates them to understand the learning materials more deeply and actively participate in learning. This transformation of learning brings new challenges for all parties involved, yet at the same time offers enormous potential for developing skills and competencies that will be highly valued in the future.



8.2. The Evolution of Tertiary Education and Competencies

Historical Perspective

A brief look at how university teaching was traditionally approached, and the competencies previously emphasised.

To thrive in today's society, individuals need to master working with technology critically and intelligently in their professional and personal lives. Understanding the principles of technology along with the ability to influence, modify, and shape the digital environment is key to using technology meaningfully. It is also important that people are ready to react to the inevitable changes in the job market, especially those positions that will not survive the digital transformation towards Industry 4.0 and Society 4.0 while adapting to new occupations and professions in the process of reskilling and upskilling. This trend is being recognised by many countries, which are trying not only to introduce technological innovations in education but also to equip school leavers with the certificates that are needed in the labour market.

Digital literacy and digital competence concepts are often intertwined in the education and skills environment. The concept of new literacies has emerged with the development of technology and the gradual realisation of how it transforms our work, social, and personal lives. For example, the advent of the Internet has opened up opportunities for wide access to information, new forms of communication, and advanced e-learning models. However, it has also exposed users to various internet threats (Force, 2013).

The narrowest digital concept was ICT literacy, which focused mainly on technical knowledge and the use of computers and software applications (Ala-Mutka, 2011). This was followed by Internet literacy, which expanded knowledge and skills, tools and abilities to function successfully in a networked media environment. The other two concepts, information literacy and media literacy, overlap to a large extent. However, the former term is more about the ability to find, organise and process information. At the same time, whilst the latter is more about the ability to use and create media for one's own benefit, hence in both cases a critical approach is emphasised. Two other concepts, information literacy and media literacy, overlap to some extent as well. Information literacy involves the ability to find, organise and critically process information. On the other hand, media literacy focuses on the skills to use and create media to one's own advantage, where a critical approach to information is a key element (Rojek et al., 2020).

Digital literacy refers to the ability to use computer networks to access resources and the ability to work with these resources, and in a narrower sense, the ability to work in an online environment and assess online information (Jeřábek et al., 2018). According to the American Library Association (American Libraries, 2013), digital literacy is the ability to use information and communication technologies to find, verify, create, and transmit information that requires both cognitive and technical skills. According to Martin (2008), digital literacy is the ability to successfully perform digital activities (the ability to work effectively with digital technologies) in various life situations, including work, learning, leisure, and other aspects of daily life. Costello (2018) stated that the level of digital literacy is already increasing as we live in an era of mobile technology, with ubiquitous smartphones and tablets, the convenience and flexibility of getting information quickly, and access to cloud services from anywhere. However, it is believed that the development of digital literacy cannot be seen as an automatic consequence of the use of technology, as the very concept of digital literacy contains components that cannot be acquired in this way.

In Europe, the concept of digital literacy was based on the Key Competencies for Lifelong Learning (Recommendation of the European Parliament and of the Council of 18 December 2006...), in the field of ICT it was *the use of computers to retrieve, evaluate, store, create and exchange information, as well as to communicate and collaborate within networks via the Internet*. In line with the definition of the term approved by UNESCO (2018), digital literacy is defined as a set of competencies needed to understand, interpret, create, communicate and use digital technologies effectively and safely to improve the quality of life and the environment, for work and personal fulfilment, to develop personal potential and to maintain or increase participation in society. A gradual shift from a micro to a macro perspective is increasingly evident within this broad framework. In other words, the concept of digital literacy no longer refers only to individual capabilities. Yet, one begins to consider the social or community context

in which digital literacy becomes a tool for social participation (Iordache et al., 2017). The reason is the penetration of new technologies into everyday life, which raises the question of so-called digital well-being, understood as a set of skills by which an individual can counter the side effects of an excess of digital communication, avoid the stress of accelerated information flow, and minimise the negative effects of living with digital technologies, such as wasting time or paying attention to irrelevant activities (Gui et al., 2017). In this context, an important goal of digital literacy is to be able to use digital technologies responsibly, for personal development and for the benefit of others.

Competence is a complex category that is not based on a single skill but represents a set of knowledge, skills, abilities, attitudes and values. The Pedagogical Dictionary defines teacher competence as a set of professional skills and dispositions that a teacher should be equipped with to effectively perform his/her profession (Průcha, 2019). This topic has been discussed since the 1970s, especially in Germany, in the context of economic and social changes in society and new social needs. A key question has been whether the educational system is relevant to these new needs and whether the content of education is relevant in the context of a changing society. In 2006, a recommendation of the European Parliament and the Council of the EU was published (European Union, 2006), which led to further discussion on teacher competencies.

The notion of competence was followed by some teacher requirements regarding knowledge, skills and abilities. Janík et al. (2007) assert that, in addition to knowledge and skills, attitudes, values, and possibly even character traits, are also represented. Furthermore, it was assumed that the teacher would contribute to the completion of competence through his/her pedagogical and social creativity, e.g., according to Kratochvílová (2007), being a co-creator of the curriculum, its innovator, user, implementer and evaluator. There was also talk of key professional competencies and personal competencies, e.g. in the study by Vašutová (2004). Furthermore, personal competencies were considered an automatic part of professional competencies and Průcha et al. (1998) emphasised communicative, managerial and diagnostic competencies. It has been argued that competencies must be operationalisable and cannot be limited to mere technology control. For example, as stated in the subject matter competencies, a teacher can transform the way knowledge of a given subject is conveyed into how students think about and understand that subject. Furthermore, the didactic and psycho-didactic competencies state that teachers can use ICT to support student learning. It was emphasised that the teacher's professional competencies are important for effective teaching and are also an important prerequisite for his/her authority.

The development of tertiary education and competencies tends to be a major focus of much research. Ugarte and Naval (2010) looked at the development of professional competencies in higher education, with Ginarte emphasising the

shift from occupational to educational competencies. They highlighted the role of specific professional competencies in higher education. Kulik et al. (2020) discussed the competency approach in higher education and stressed that practical skills and competencies are needed in addition to basic knowledge. However, Brunner (2008) warned against blindly adapting universities to the changing dynamics of labour markets and suggests a more nuanced approach to the relation between tertiary education and the labour market. The traditional approach to university teaching is heavily research-oriented, with teaching often sidelined (D. E. Scott & S. Scott, 2010). This can lead to a misalignment between the needs of students and the priorities of lecturers. The need to prioritise effective teaching and learning through digital technologies comes to the fore – for example, creating effective learning content, developing students' skills and integrating digital technologies into the curriculum. A more student-centred approach is emerging, emphasising individual student needs, as noted by Meng-xi (2010).

In an attempt to ensure that our educational systems remain relevant and effective in meeting the demands of today's rapidly evolving digital landscape, it is essential to revisit and elaborate comprehensive digital competencies modules. These comprehensive modules encompass crucial digital competencies such as (Svoboda et al., 2020):

- e-learning and online communication tools,
- digital competencies and digital technologies,
- innovative didactic tools in teaching and interactive technologies,
- cloud applications and other services in the school environment,
- digital technologies in teaching and school management,
- searching for information on the internet and digital technology security.

The above must be meticulously evaluated and enhanced, and by doing so, ensuring that they align with changing educational needs, preparing students and educators to navigate and thrive in a world where digital fluency is beneficial and indispensable. This continuous process of revision and improvement will help cultivate an educational environment that is both innovative and secure, fostering learning that is truly reflective of 21st-century digital experience and related digital competencies.

Along with the transformative steps in education, we must acquire a new set of skills relevant to the newly emerging situation. Almost overnight, teachers are expected to start using new methods to engage, instruct, and inspire students. However, a pivotal question arises: Who will teach the teachers? This query underlines the need for robust, ongoing professional development programmes. Educational support will equip educators not just to adapt but to excel in this new era. Newskilling will ensure that teachers will be well-equipped to foster a learning environment that is both dynamic and relevant (Svoboda, 2020).

New Competencies for the AI-Driven 21st Century

This section explores the new competencies considered crucial for university teachers in the context of rapid technological progress and evolving societal demands. The advent of generative multimodal models has revolutionised the educational landscape, necessitating a profound change in teaching methods, the seminars' structure, and the design of project tasks.

Below, the new digital competencies are systematically organized into two tables to ensure a clear understanding. Table 8.1 outlines the digital competencies adopted so far, while Table 8.2 looks into their augmentation with AI.

Table 8.1. Digital competencies and objectives

Digital competency	Objective (Why We Need It)
Digital literacy	Using digital technologies to effectively search, use, summarise, evaluate, create, and communicate information.
Digital content creation	To enhance learning by creating engaging digital content like presentations, videos, blogs, and podcasts.
Data literacy	Collecting, managing, evaluating, and interpreting data is essential for personalised learning and assessment.
Online communication and collaboration	To utilise online digital platforms for effective communication and collaboration with students, parents, and colleagues.
Digital pedagogy	To integrate digital tools into teaching methods and practices to support and enhance student learning.
Technology integration	To improve educational outcomes by seamlessly incorporating various technologies and applications into the curriculum.
Adaptive, personalised and immersive learning	AI and other technologies should be used to adapt teaching strategies to meet individual student needs and promote personalised and immersive learning experiences.
Critical thinking and design thinking in the digital world	To critically assess the reliability and credibility of online sources and digital content and apply design thinking for creative problem-solving.
Cybersecurity awareness and ethics	To understand online safety, privacy protection, and ethical considerations in using digital tools and resources.
Interdisciplinary collaboration in teaching and learning	To foster an environment where students and educators can collaboratively engage across disciplines, enhancing creativity, problem-solving, and comprehensive understanding.

Source: own elaboration based on (Redecker, 2017).

As technological advancements periodically introduce new software programs and applications, it has become an established paradigm that university educators commit to ongoing lifelong learning. The rise of the AI-enhanced educational paradigm is no exception to this rule. University teachers recognize the profound opportunities

these tools offer to enhance educational experiences for their students. However, to effectively leverage these opportunities, educators must first be knowledgeable and skilled themselves, ready to continually refine their abilities. This dynamic approach to learning ensures that educators are well-prepared to embrace future innovations. Universities play an active role in timely preparing and disseminating essential information to all stakeholders involved (Plíhalová & Kopecký, 2024).

Universities and other educational institutions must cultivate a culture of perpetual learning and an open attitude towards new AI-driven applications. They recognize their capacity to transform the learning environment, making it more personalised, engaging, and immersive for their students. This transformation of education is crucial for the effective acquisition of knowledge and skills that are increasingly valued by future employers. Moreover, it is a visible trend that employers are currently seeking employees with a working knowledge of AI applications. These logical requirements highlight the importance of integrating these competencies into educational curricula (Svoboda, 2022).

Thus, the logical requirement for further education leads to the next level of competencies, i.e. digital competencies enhanced by AI. Table 8.2 shows the process of AI-augmentation of the fundamental digital competencies of university educators including the expected results.

Table 8.2. Digital competencies, AI augmentation, and expected results

Digital competency	AI-augmentation	Expected results
1	2	3
Digital literacy	AI-enhanced educational platforms for interactive learning	Enhanced ability to navigate digital resources and tools
Digital content creation	Content generation tools for creating diverse educational materials	Increased engagement and diversified learning materials
Data literacy	Data analysis tools for personalised student feedback	Improved personalised learning experiences
Online communication and collaboration	AI-driven communication platforms for enhanced collaboration	Streamlined communication and teamwork among educational stakeholders
Digital pedagogy	AI models to support teaching strategies and curriculum development	Innovative teaching methods and curricula that meet modern needs
Technology integration	Intelligent tutoring systems and educational software	Seamless integration of technology into teaching and learning
Adaptive, personalised and immersive learning	Learning management systems with AI for tailored learning paths	Improved student satisfaction and performance with customised learning materials

Table 8.2, cont.

1	2	3
Critical thinking and design thinking in the digital world	Critical thinking tools to evaluate information credibility	Strengthened critical evaluation skills in a digital context
Cybersecurity awareness	AI systems for cybersecurity education and simulation	Heightened cybersecurity practices and understanding
Interdisciplinary collaboration in teaching and learning	AI-facilitated platforms and tools that encourage cross-disciplinary projects and discussions	Enhanced creativity, problem-solving capabilities, and a broader perspective through interdisciplinary engagement
Continuous professional development	AI-curated resources for ongoing teacher training	Continuous professional growth and adaptability to new technologies

Source: own elaboration.

Table 8.2 concisely illustrates how artificial intelligence can elevate existing digital competencies among university educators. Being self-confident, university educators can integrate AI tools and methods of instruction and teaching programmes, therefore the learning environment will be more dynamic, immersive and efficient. Consequently, not only students but also the teachers themselves will be well-prepared to thrive in an increasingly digital world. The above-mentioned expected results demonstrate the transformative potential of AI in education, promising more engaging, personalised, and secure learning experiences.

The Added Value of AI-Enhanced Competencies

Many challenges relate to the deployment of artificial intelligence in the digital transformation of higher education, ranging from overcoming organizational and cultural barriers to the possible fear of failure in implementing such a complex task. In fact, this pattern is not new; similar challenges were faced during major technological shifts such as the introduction of the Internet in schools, the onset of tablet use, and the advent of virtual reality. History seems to repeat itself as we navigate these pivotal changes.

The added value of AI-enhanced competencies lies in several key areas that collectively make education more effective, modern, and well-suited to preparing students for the realities of the world (Fig. 8.2).

Tertiary education is a pivotal element shaping our future, with innovative teaching methods at the heart of this transformation. These advanced teaching techniques, enabled by AI, make learning more personalised and immersive, allowing for deeper engagement in the subject matter.

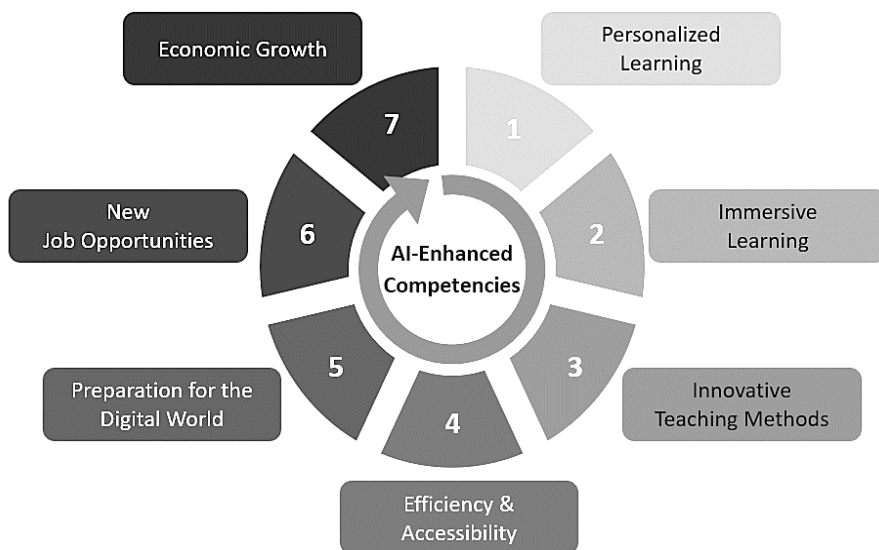


Fig. 8.1. AI-enhanced competencies' added value

Source: own elaboration.

In turn, this leads to better educational outcomes. Engaging and interactive, the AI-enhanced content becomes more memorable, ensuring that learners retain knowledge more effectively. These educational tools are indispensable for better preparing students to meet the challenges of the new job market. With AI as an ally, students are equipped with the skills demanded by current job opportunities, significantly improving their employability.

Each identified factor contributes to modern, efficient, and dynamic tertiary education, playing a role and adding value, which can be summarized as follows.

1. **Personalised learning:** AI allows for tailoring educational experiences that adapt to the individual learning styles, specific needs, preferences and progress of each student, thereby leading to student satisfaction when reaching better study results.
2. **Immersive learning:** immersive learning can be considered the next experiential learning level. While experiential learning is a broad concept that encompasses any learning process designed to allow learners to apply theoretical knowledge to real-world tasks (with its four stages, i.e. concrete learning, reflective observation, abstract conceptualisation, and active experimentation (VGU, 2021), immersive learning is more specific in its use of technology, including AI, to create a deeply engaging environment that simulates reality. The learning environment is complex for simulation and practice, ranging from virtual reality (VR) to augmented

reality (AR) and beyond, allowing students to experience and interact with the subject matter in three-dimensional spaces. This facilitates a high level of engagement and a sense of presence that traditional learning environments often cannot provide. Immersive learning helps teachers avoid distractions and keep learners engaged for a longer period, ideally even the whole lecture or seminar. It is set to become a transformative force in education (Kumar, 2022).

3. **Innovative teaching methods:** AI enables the development of innovative teaching methods and materials, including immersive learning experiences through simulations and virtual environments, making learning more engaging.
4. **Efficiency and accessibility:** AI-driven tools can streamline administrative tasks and make educational resources more accessible to a wider audience, breaking down barriers to education.
5. **Preparation for the digital world:** by integrating technologies and AI-driven applications into education, students gain firsthand experience with the working environments that are increasingly prevalent in the workplace. It is a precondition for more efficient students' preparation for their future careers. Consequently, for employers, a more reality-relevant preparation of students will lead to higher satisfaction and less investment in onboarding and training new employees.
6. **New job opportunities:** familiarity with AI and digital technologies equips students with the skills needed for emerging job markets, contributing to their employability and adaptability in a rapidly changing economy. With AI-enhanced digital competencies, students will be more employable.
7. **Economic Growth:** by fostering a workforce that is skilled in AI and digital technologies, education contributes to the innovation capacity and competitiveness of the economy of any business entity, potentially leading to new jobs creation and economic growth.

Based on the above, it can be concluded that AI-enhanced competencies offer a comprehensive approach to education that meets the demands of the AI-driven 21st century. This ensures that students are not only well-prepared for their future careers but also capable of contributing to societal and economic development (Svoboda, 2021).

8.3. Instructional Design in the Age of AI

Educators and learning materials creators, i.e. both teachers and instructional designers, focus on educational content development in appropriate formats to facilitate learning. Traditionally, we understood instructional design in education as the systematic process of creating educational experiences that make the acquisition of knowledge and skills more efficient, effective, and appealing. Usually, this process

involves analysing learners' needs, defining learning objectives, designing and organizing content, choosing instructional strategies, and assessing both the learning process and outcomes to ensure educational goals are met.

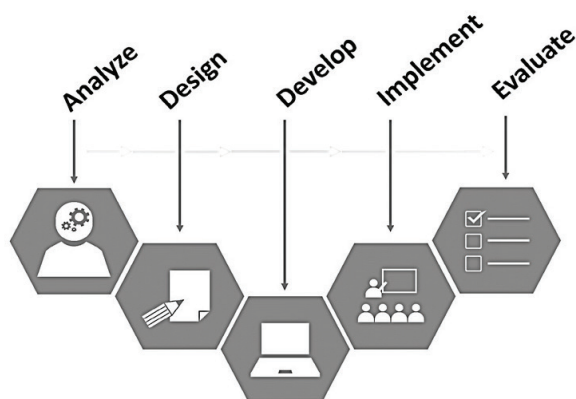


Fig. 8.2. ADDIE Model based on Schetchbubble design

Source: own elaboration.

In the methodology of teaching, this process is known as ADDIE (Fig. 8.2), which stands for Analysis, Design, Development, Implementation, and Evaluation. ADDIE is a widely recognized framework that serves as a guideline for constructing effective training and performance support tools in a consistent and reliable manner. Each phase of ADDIE involves a set of processes that contribute to the overall efficiency and effectiveness of learning by ensuring that the development and delivery of educational materials are tailored to meet the specific needs and constraints of the audience.

The Role of AI in Instructional Design

Meeting today's high standards, modern instructional design is distinguished by key principles: it should be motivating, well-organized, engaging, interactive, and adaptable. Regarding content, it ought to include elements of surprise to facilitate memory indexing, ensuring that learners leave with an immersive and memorable learning experience. This approach enhances retention and also fosters a deeper connection between the learners and the study material, setting the stage for lifelong learning and curiosity.

Exploring how AI technologies are shaping new requirements for instructional design, we must take into account potential changes to the ADDIE Model:

AI + Analysis: AI can offer deeper insights into learner needs and context through data analytics, potentially leading to a more nuanced understanding at this stage.

AI + Design: design strategies may evolve to incorporate AI-driven personalisation and adaptivity, requiring designers to think in terms of flexible learning paths rather than static content.

AI + Development: the development phase might involve the increased use of AI tools for content creation, potentially streamlining this process and allowing for rapid prototyping.

AI + Implementation: AI can support more dynamic and responsive implementation, with learning environments that adapt to individual learner needs in real time.

AI + Evaluation: AI could transform evaluation into an ongoing process, utilising learner data to continuously refine and improve the learning experience.

Examples of AI-enhanced Instructional Design Strategies

Highlighting case studies or examples where AI has effectively enhanced instructional design serves as a powerful motivation for anyone interested in pursuing this innovative approach. Successful AI-enhanced instructional design implementation can be exemplified by Duolingo and Coursera's AI Tutor in which AI has successfully augmented instructional design, enhancing both teaching and learning experiences.

1. **Duolingo:** a successful language learning platform that uses AI to personalise learning paths for users. Its AI algorithms assess a learner's strengths and weaknesses, adapting the curriculum to meet their individual needs and pace. This personalised approach helps keep learners motivated and engaged, significantly improving language acquisition.
2. **Coursera's AI Tutor:** Coursera, an online learning platform, has experimented with AI tutors to augment its courses. These AI tutors play several roles: they can grade assignments, provide instant feedback, and answer student queries, mimicking some aspects of human interaction and support in online learning environments.

These examples illustrate the diverse applications of AI in instructional design, from personalised learning and adaptive feedback related to the generation of customised content. By leveraging AI, educators can create more engaging, effective, and responsive learning experiences that cater to the varied needs of students.

8.4. Newskilling University Teachers for an AI-augmented Era

Proceeding through an era marked by rapid technological advancements, we all fully realise that the landscape of higher education is undergoing a significant transformation in every aspect of tertiary education. Artificial Intelligence is at the

forefront of this fundamental change, as it reshapes the traditional paradigms of teaching and learning, which profoundly changes the instructional design process. To thrive in this evolving environment, university teachers must not only adapt but also excel in their role as thought leaders and evangelists sharing innovative educational paradigms. They can excel by timely acquiring new skills that align with the demands of AI integration in education. This chapter examines the critical need for ‘newskillings’ – a process of updating the skillset of educators to include AI and digital technologies. The chapter explains very clearly the difference in meaning related to reskilling, upskilling and predominantly newskilling as crucial strategies driving the transformation of the job market in the near future ensuring that all job seekers, including university graduates, are well-equipped for the challenges and opportunities of the 21st century.

Understanding Newskilling

The term ‘upskilling’ has been on the agenda of educators and corporate HR specialists for some time. In the iconic article for MIT Sloan Management Review, Gratton wrote about the initiatives emerging in the World Economic Forum already in 2017: *At Davos this year, an initiative called the Reskilling Revolution launched that saw both companies and governments pledging to reskill and upskill* (Gratton, 2020). In an attempt to define newskilling and its importance in the professional development of business managers and university teachers alike, it is important to distinguish this term as a new developmental stage in the process of acquiring certain types of skills (Tab. 8.3).

Table 8.3. Types of skill development strategies

Skill Development Category	Definition
Reskilling	acquiring new skills to move from an obsolete job to a new one ; it involves training people in completely new subjects so that they can move from one job to another
Upskilling	acquiring new skills that are needed for the position that an employee is currently performing ; it is about developing new skills as new technologies appear in the field of their position and, therefore, being more competitive within the professional sphere
Newskilling	the need for continuous learning that organizations have for those competencies that are going to be in high demand for the improvement of the professional and at the same time the success of the business; mastering AI-enhanced digital competencies or AI-driven applications are typical examples

Source: (Qaleon, 2022).

When considering the evolving role of AI in education, it becomes clear that educators need to grow alongside these technological advancements. The following

section deals with different strategies for AI-enhancing digital competencies, looking into the various methods and programs that can be employed to enrich the current skill sets of university teachers with AI and technology-focused skills.

Strategies for Augmenting Competencies

This research would not be complete without examining the various educational formats, programmes and methods available to enrich the existing competencies of university teachers with AI-driven and technology-focused skills.

In their educational opportunities' portfolio, HR professionals, together with training providers, continuously refine and perfect methods and programmes to enhance the existing competencies of university teachers with AI and technology-focused skills. Each of the following educational opportunities serves its own specific purpose. In essence, educators can create the so-called Personal Learning Environments (PLE) with the aim to harness the potential of various digital and interactive tools to create a personalised and integrated learning experience that extends learning opportunities beyond traditional classroom settings.

1. **Professional development workshops:** tertiary education institutions may organize workshops and training sessions that introduce innovative AI concepts, tools, and applications highly relevant to teaching practices.
2. **Collaborative learning communities:** by making use of social media platforms, mainly LinkedIn e-communities, we can establish and successfully operate learning communities where educators can share experiences and strategies for integrating AI into their teaching.
3. **Certification programmes:** offering certification programs in educational technology that focus on AI applications will help teachers formalise their understanding and skills.
4. **Online courses and webinars:** using various online platforms to provide teachers with barrier-free access to courses and webinars taught by experts in AI and educational technology. Many of these experts might leverage their knowledge and skills within their pro-active attitude to ESG activities and sustainable initiatives.
5. **Mentorship programmes:** here, one can imagine pairing teachers with AI specialists or tech-savvy mentors who can provide personalised guidance and support.
6. **Technology grants:** a unique opportunity lies in providing grants or funding opportunities for teachers to explore AI integration in their curriculum or research. New grants are currently being prepared by relevant institutions. Their main focus is on fostering tertiary education curricula and syllabi.

7. **Cross-disciplinary projects:** in today's interconnected world, the lines between disciplines blur, revealing the rich potential of collaboration. Teachers are encouraged to engage in projects that bridge different disciplines and introduce AI into the fabric of their work. This means joining hands across disciplines to unlock AI's full potential and bring a wealth of perspectives to light.
8. **Sabbaticals for tech education:** some of the projects based on AI might be very time-consuming. Therefore, offering sabbaticals or dedicated time for teachers to study and explore AI advancements and their implications for education is not only needed but a priority. University teachers need space to explore, understand, and bring back insights that can 'light up' our classrooms.
9. **Integration of AI tools in teaching practice:** supporting teachers in the use of AI-powered educational tools will lead to fundamental changes in the design of the teaching methods and lectures or seminars' structure and content. It is important to enable access to adaptive learning platforms, learning data analytics, and AI tutoring systems, making the most of an immersive learning experience.
10. **Research and development opportunities:** these demanding changes are of utmost importance for the educational system and have very promising results. Therefore, it is important to incentivise teachers to participate in or even lead research projects that examine the impacts of AI on teaching methodologies and student learning results.

Taking a closer look at each of these strategies will help educators identify the most relevant educational opportunity to the given situation. They are all designed to empower university teachers with the knowledge and capabilities needed to harness AI's advantages in their demanding jobs. Mastering the necessary knowledge and skills will increase their self-confidence and enrich their teaching practices. Consequently, their students will be much better prepared for a future where AI is ubiquitous.

8.5. Modernising the Curriculum: Integration of AI and New Competencies

Curriculum Development for the Future

University educators realise that they must design modern curricula that incorporate AI and other technological novelties. Modernising curricula through the integration of AI and new competencies is a challenging task, and a strategic approach has to be adopted to meet these requirements.

The importance of **interdisciplinarity** has already been mentioned since it is growing in importance across all study programmes (Pavlát et al., 2023), be it man-

agement, marketing, accountancy science, or art. An interdisciplinary attitude to the new curriculum design will lead to crossing traditional academic boundaries of individual disciplines and, consequently, to solving complex real-world problems with greater ease.

AI-assisted personalised learning can achieve higher efficiency in study programmes. Thus, educational content can be adapted according to topic selection and difficulty to suit individual students' needs and learning styles.

Within the **data-driven curriculum design**, AI will be deployed to analyse a student's performance data, which will form the basis for tailoring curriculum development. This ongoing process can be automated, ensuring that the study program responsively adapts in a timely manner to each student's changing needs.

The process of modernising the curriculum can be significantly enriched through **project-based learning involving AI**. In these experiences, students engage with a range of AI-driven systems, software, and applications, thereby deepening their understanding of theoretical concepts and enhancing their practical skills.

Additionally, establishing **industry and academic partnerships** with tech companies, experts, and academicians from various fields can provide students with deeper insights into how AI is applied in the workplace. This collaboration enables the preparation of immersive learning experiences tailored to real-world application.

Creative problem-solving, critical thinking, and design thinking, all within the context of AI, can serve as powerful tools for innovation. Integrating these principles into the curriculum can lead to exceptionally outstanding results.

Last but not least, the **ethics of AI** – including the ethical implications such as data privacy, biases in machine learning, and the societal impacts of automation on the job market – must be carefully considered. Additionally, compliance with the AI Act and other relevant legal norms must be ensured.

Contemplating the role of various aspects to be taken into consideration while designing modern curricula unveils the whole process as a dynamic intersection of AI technology with educational practices. Thus, the need for curriculum innovation becomes apparent, emphasising the importance of forward-thinking curriculum development that equips students with the competencies required in an increasingly AI-integrated world. By embracing this approach, educational institutions can prepare learners not only to adapt to technological advances but also to excel in a future where AI is commonplace.

Balancing Technology and Human Touch

Wired Insider, a reputable segment of Wired Magazine, recently published an insightful opinion stating: *If we design, develop, and deploy technology without the right combination of human perspectives and understanding woven in, we risk building*

something with poor user experience and inappropriate functionality as well as potentially jeopardizing cyber security and resilience (Balancing Act..., n.d.).

Nowadays, many sociologists and psychologists are addressing the fundamental question of how to preserve the humanistic essence of teaching while integrating technological advancements.

Technology is indeed transformative, significantly altering our lives and sometimes at a pace that is challenging to keep up with. Yet, despite these rapid changes, the human touch such as personal encouragement, sharing life experiences, and fostering genuine connections remains invaluable. These elements make university education uniquely special, which begs the question: Will teachers still be needed? It is obvious that modern technology can enhance the educational experience. However, it cannot replace the critical human elements of empathy, understanding, and mentorship. These are those human traits that teachers provide and students need, expect, and benefit from.

What will the future of AI-enhanced tertiary education look like? We must create a balanced learning environment where the human touch pervades, and where teachers are readily available for their students. Even student interactions with generative multimodal models and AI-driven applications will yield better outcomes in such a setting. Only then can we develop a more engaging, immersive, and effective learning environment that meets the needs of future generations of students and benefits our society as a whole.



8.6. Conclusions

In concluding the exploration of AI-enhanced digital competencies in tertiary education, it becomes clear that the integration of AI not only redefines instructional strategies and curriculum development but also demands a re-evaluation of the roles and competencies of university educators.

This chapter highlights the transformative character of the current era in higher education, while the transformation is driven by AI and emerging technologies, and shows how AI can customise educational experiences to individual learner profiles to benefit from newly emerging adaptive learning systems. Educators and their students enjoy a deeper engagement with learning materials. University teachers are expected to continuously improve the technique of immersive learning, and ever more integrate interactive technologies. The discussions have highlighted the dual necessity of embracing technological advancements while ensuring that the essential human elements of education – empathy, critical thinking, and interpersonal connections – are not overshadowed.

The comprehensive exploration of this topic has revealed the imperative of newskilling – updating the skill set of educators to incorporate AI and digital technologies. It is evident that newskilling is no longer optional but essential for keeping pace with the demands of contemporary educational environments.

Another significant insight is the need for a thoughtful and balanced integration of AI within education, alongside human-centric pedagogical approaches. This strategy is crucial for preserving the humanistic essence of teaching and the relations between students and teachers.

Lastly, ethical considerations are of paramount importance as AI becomes increasingly embedded in educational systems. These include issues related to data privacy, bias, and the impact of AI on the job market, which are becoming increasingly critical to address.

In conclusion, the authors of this chapter assert that the transformative potential of AI and new competencies in university teaching holds the promise to revolutionise educational delivery, equipping students with the essential skills needed to thrive in an increasingly digital and interconnected world. Simultaneously, the role of the university educator, equipped with AI-enhanced digital skills, is recognised as both prestigious and vital for society. These educators play a crucial role in training students, ensuring high-quality tertiary education that enhances employment opportunities in the job market and also facilitates career progression in the future.

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CHAPTER 9

From Family Business to Family Entrepreneurship: Embracing Innovation and AI in the Evolution of Family Ventures

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Quote as: Tomášková, A. & Knihová, L. (2024). From Family Business to Family Entrepreneurship: Embracing Innovation and AI in the Evolution of Family Ventures. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 147-159). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.09](https://doi.org/10.15611/2024.92.5.09)

Abstract: The transition from ‘family business’ to ‘business family’, or ‘family entrepreneurship’, is a significant shift towards a conceptually diversified and innovative approach in family businesses. This model emphasises the importance of adapting to market changes and preserving key attributes, namely values and traditions. Collaboration among universities and family businesses brings new insights, innovative solutions and best practices to enhance competitiveness. Preserving values, traditions, and sustainability is crucial to the success of family businesses, at the same time collaboration among universities, businesses and communities brings economic and social development benefits but requires continuous development of educational programmes.

Keywords: innovation, family business, tradition, universities



9.1. Introduction

Family businesses are perceived as the cornerstones of thriving societies. They represent values and traditions passed down from generation to generation. They are not only economic business entities but also symbols deeply rooted in local communities. On the one hand, they are guardians of preserving traditions and values; on the other hand, they are innovators. Family businesses walk a fine line between preserving

heritage and adapting to change. In an era of technological progress and globalisation, the evolution of family businesses from traditional models to larger business structures is crucial to their continued success. This transition, often referred to as the shift from 'family business' to 'business family', highlights the dynamic nature of these businesses and their key role in social and economic development. It is enormously socially significant and deserves to be elaborated on in more detail in the context of dynamically changing social conditions, especially with the emergence of artificial intelligence in all sectors of human activities and endeavour. This chapter is an extension and deepening of previous research studies by Tomášková and Knihová (2024).

As family businesses expand and diversify, universities play a vital role in supporting their growth and long-term development. Through comprehensive educational programmes, research initiatives, and collaborative research projects, universities equip the next generation of family business successors with the skills, knowledge, and critical thinking necessary for today's competitive and rapidly changing environment. Moreover, universities contribute to preserving family heritage by promoting values such as tradition, sustainability, and social responsibility by implementing them in their curricula, engaging with local communities, and participating in regional development. By promoting lifelong learning, universities enable family businesses to embrace change, seize new opportunities and set the course for future and long-term operations, leading to successful succession from one generation to the next.

In this context, the transition from a family business to a business family represents not only a strategic evolution but also evidence of the resilience and adaptability of these businesses. By embracing change and innovation while staying true to their roots and the legacy of generations, family businesses are poised to shape the landscape for future generations. As the transformation journey unfolds, it is essential to recognize the key management role of family businesses in respecting values and traditions, promoting sustainable development and fostering innovation. Together with universities as strategic collaborators, family businesses can navigate the complexities of the business environment in an ever-changing global marketplace.

9.2. The Role of Family Businesses in Building a Thriving Society

Family businesses represent an essential part of the heritage for future generations and play a key role in preserving family traditions and values. They contribute significantly to economic stability and community development, fostering a sense of continuity and responsibility across generations. Regarding family businesses, one refers to socio-emotional wealth, where family businesses also pursue non-economic objectives (Gomez-Mejia et al., 2007).

As already mentioned, family businesses are often associated with certain values and traditions that are passed down from generation to generation. These values and traditions can also be key factors for branding and competitive advantage. A number of successful companies have tried to overcome customer mistrust and differentiate themselves. *It has cost companies a lot of money and energy to invest in building a strong brand. [...] Many brands have benefited for generations* (Geršlová, 2011, p. 7).

Moreover, some family-owned companies use traditional techniques in their production, techniques that are listed on UNESCO's Intangible Cultural Heritage of Humanity list. Tomášková and Kniňová (2024) have been conducting research on traditional regional craft techniques in Czechia for some time (ranging from the production of blueprinting, chenille weaving, handmade production of Christmas tree decorations from blown glass beads to confectionery and bakery traditional manufacturing) (Tomášková, 2020; Tomášková & Kniňová, 2024; Tomášková & Nadřová Krošlínová, 2003). Regarding Czechia, one can mention the blueprinting technique, which is associated with the companies Modrotisk Danzinger (production of blueprints Olešnice) and Strážnice blueprint called Arimo (produced by Joch family).

The technology of this exceptional textile based on negative printing and indigo dyeing was included in the UNESCO Representative List of the Intangible Cultural Heritage of Humanity in 2018. Another example of family business is the Rautis family-owned company from Poniklá, with the long tradition of producing hand-blown glass beads and beaded Christmas decorations. It is the last place in the world where the craft of making beads by hand has been preserved and is still passed down from generation to generation, from family to family (UNESCO, n.d.).

9.3. Transitioning from Family Business to Family Entrepreneurship

The new trend in the evolution of family businesses is especially typical of the second generation members of family businesses. It is of utmost importance as it highlights the shift from simply inheriting a business to actively engaging in diverse entrepreneurial activities across various industries. This transition signifies not just the continuation but the evolution of family enterprises, fostering innovation and adaptability. The authors explored this topic in their earlier works, providing a foundation for understanding how family dynamics and entrepreneurial spirit drive this transformation (Tomášková & Kniňová, 2024).

As the family grows, so does the company, as a natural progression. This process, known as the transition from a family business to a business family, focuses on transforming the family business from a traditional model, in which the family is primarily concentrated on entrepreneurial activities typically associated with a single

company in a particular industry, to a broader model where entrepreneurship becomes an integral part of the entire extended family (Litz, 2008).

The prevailing, although often unexpressed, tension in family businesses originates from the fact that different owners – and potential owners – may not wish to engage to the same extent. Unfortunately, these preferences and expectations frequently remain unresolved, which might lead to potential conflicts and misunderstandings within the family business and, of course, within the family as well (Loreto, 2024).

The transition from a family business to a business family (i.e. a business-mind entrepreneurial family) can be seen as an evolution in the way families approach business and the management of their assets. In the context of family business, the focus is predominantly on the business itself, its operations and prosperity. In this model, the family is primarily associated with the goal of developing and supporting the enterprise.

In the transition to the concept of the entrepreneurial family, the focus expands from one specific business to the broader portfolio of entrepreneurship activities and investments that the family manages. This approach emphasises family wealth management, investment diversification and the long-term sustainability and growth of family wealth. Thus, the family ceases to be defined by a single business and becomes more of a 'brand' (compare the 'umbrella strategy') under which it can operate different types of business, invest in new sectors or engage in ESG (Environmental, Social and Governance) activities to meet the characteristics of sustainable entrepreneurship (Espinosa-Méndez et al., 2023; Tahira & Mita, 2021).

The transition can also mean a change in internal organisation and management. While a family business may be heavily dependent on the leadership of an individual or a small group of relatives, an entrepreneurial family may be implementing more sophisticated governance structures, including family councils or other models that help manage family assets and ensure their transfer to future generations (Rosecká & Machek, 2023; Zellweger et al., 2019).

Such a progression may be motivated by a desire to diversify risks, a willingness to adapt to changing market conditions, a desire to preserve family wealth for future generations, a wish to have a broader social impact, or become a brand leader in a particular industry (Basco et al., 2020). Therefore, the transition from family business to family-owned business or even a company reflects a shift from an operational focus on individual businesses to strategic management and development of the family estate in its entirety.

Caught up in the day-to-day concerns of running the business, owners may not find the time to ponder strategy-related questions such as: is our family business on the path to growth? Yet, there is one statistic that is very revealing. Latta et al., in their article for the Harvard Business Review, stated: *A family business's 'reinvestment rate' – the percentage of all the profits that are reinvested in the legacy*

business or new ventures, instead of being distributed to the owners – is the single most important number to look at to determine whether the business is on track to grow. No other number is a better expression of the owners' intent (Latta et al., 2024). This figure becomes increasingly crucial in times when a significant shift towards the extensive deployment of artificial intelligence (AI), already impacting the operations of small businesses today, is being prepared. Undoubtedly, this figure will be monitored by both *family business* and *business families* (as well as by potential investors) with ever greater diligence, namely in relation to the decision-making process and efficiency.

Family businesses serve as crucial pillars of national economies and are fundamental providers of services in regions. A distinctive trait of these enterprises is their long-term outlook, which guides them towards transferring the business across generations (Carosi & Mengoli, 2017). During such transitions, it is not uncommon for multiple generations to be involved simultaneously in the family business. A harmonious relation between the family and a well-operating business forms the bedrock of a seamless succession. Conversely, any instances of failure, discord, or tarnished reputation pose significant risks to the continuity of these intergenerational transfers. This is especially true for family-owned companies (Tomášková et al., 2021).

Moreover, this transition is based on the understanding that the family is the cornerstone of the business and that the success of the business is closely linked to the success of the family. The transition from family business to business family can be a challenging process, but it can bring many benefits both to the family and its business. At its core, it involves creating a strong foundation for the business and the family that can lead to long-term success.

9.4. From Heritage to Modernity: The Transformation of Family Businesses in a Time of Adaptability

In the current era, it is essential for family businesses to be capable of innovating and adapting to changing markets. Family enterprise becomes part of the family's DNA, where children growing up in an entrepreneurial environment learn business skills and values. Supporting innovation and diversification are key factors for the success of family businesses today. *The entire family is seeking a new identity, no longer tied to the former day-to-day activities of the founder's lifelong work. The family will need to embark on a new direction to maintain generational continuity* (Martelová, 2017, p. 75).

Apart from the entrepreneurial environment, the new generations stepping into family business roles, Gen Z and Gen Alpha, are well-versed in technology, suggesting they are comfortable with AI. Consequently, the critical issue is whether they are quick enough to realise that AI can level the playing field, giving them a chance to compete against more prominent players in the market. However, the adoption of AI is still progressing at a slower pace (Lannon et al., 2023).

Integrating new AI technologies is essential for successfully transitioning family business leadership. In this context, education plays a significant role. Providing educational support to this latest cohort of successors in a manner that keeps pace with the rapid advancements in AI and other technological fields presents a considerable challenge, yet it is a crucial endeavour for thriving family businesses globally. Nevertheless, a comprehensive approach is necessary, which includes familiarising the upcoming generations with the latest technologies and ensuring they possess the strategic foresight to leverage these tools effectively.

The immediate task facing educators is clear. Universities must develop a curriculum that is both forward-thinking and practical, one that equips future leaders with the skills to innovate and navigate the complexities of modern business environments. Fostering a culture of lifelong learning and adaptability within family enterprises can bolster their resilience in the highly competitive business environment. The introduction of specialist management studies is a direct response to the current situation and will help ensure the legacy of family businesses and maintain competitiveness for future generations.

The concept of changeover from family business to business family reflects a major change in the attitude and behaviour of family businesses that seek to integrate business activities and ambitions directly into the dynamic structure of the family and its values. While traditional family businesses may be based on family relationships and traditions, business families seek to balance family and business interests to achieve long-term success and sustainability.

The transition from a family business to a business family encompasses several key aspects.

Professionalisation – family businesses strive to improve their business processes and practices to be more efficient and competitive. This may include implementing professional management, establishing clear work procedures and standards, and investing in technology and innovation. The business becomes more performance and efficiency oriented. This may include, for example, hiring external managers or creating formal processes for performance reviews (Machek, 2017, pp. 69, 70).

Diversification – family businesses try to diversify their business to reduce risks and increase their competitiveness, e.g. by expanding their product portfolio, entering new markets, or acquiring other companies. Family businesses are the largest global source of jobs in the private sector, whose multigenerational nature strengthens the stability of individual economies. A competitive small and medium-sized enterprise (SME) sector into which family businesses are classified is an essential prerequisite for the full-fledged integration of any economy into the global economic space (Petrů et al., 2019).

Structure and management – involves a change in how the business is structured and managed, including the design of formal processes and procedures that help run the business more efficiently and transparently (Aronoff & Ward, 2016).

Talent development – can include talent development not only within the family, for example by creating skills development and training programmes for family members who want to work in the business. Degree programmes, majors or courses focused on family business are becoming standard at universities (Sharma et al., 2007).

Commitment to values and traditions – attributes that are typical of family businesses and families, such as a commitment to sustainability or to supporting the local community. The smaller the region, the more significant this commitment by family businesses (Srbová et al., 2023).

Changing company culture – involves creating a more open and inclusive work culture or creating programmes to promote work-life balance (Dreyer & Busch, 2021).

Change of ownership structure – this aspect is crucial in the intergenerational transfer of family businesses, e.g. the creation of a holding structure, family office, wealth management, etc. (Aronoff & Ward, 2016).

Change of business strategy – with the arrival of a new generation, this aspect is highly relevant. Each generation leaves its specific mark and has its own contribution to make (Nordqvist & Melin, 2010).

Changing relationships – this may involve a change in relationships within the family, e.g. a change in roles and responsibilities within the business or a change in relationships between members of the extended family (Nordqvist & Melin, 2010).

Changing the perception of the family business – based on the fact that the business is associated with the family, its name and the faces of the members. It is the way the enterprise is perceived by the public or a change in the way the enterprise is presented to the public (Tomášková et al., 2021).



9.5. The Role of Universities in Relation to Family Businesses

Cooperation Among Universities and Family Businesses

Universities and Family Business Centres, which are being established at universities, are undeniably crucial for family businesses. Universities provide training and conduct research on the specific needs and challenges of family businesses. Research provides valuable information on governance, management and other aspects of family business. Family Business Centres often offer consulting and counselling services for family businesses that can help address specific issues such as succession planning, conflicts between and within family members, and strategic development. Many family businesses face challenges associated with the succession to the next generation, so universities offer mentorships and courses to help future successors of family businesses develop the skills needed to take over the business successfully.

These institutions often organise networking, conferences, seminars and workshops that allow family businesses to share their experiences, network and learn from each other. Universities play a key role in promoting innovation and sustainability of family businesses through research projects and programmes focusing on these areas. It is necessary to focus not only on the needs and benefits of the business itself but also on the families and their individual members.

Training of Family Business Successors

Universities must provide comprehensive educational programmes that prepare the upcoming generations for current and future challenges. Through these programmes, the knowledge of academics and the experience of practitioners are provided. Universities work closely with students, some of whom are already entrepreneurs and work in family businesses or are owners or successors. Training programmes should include traditional business-related skills and modern technology, which is often the domain of the upcoming generation in family businesses. Educational institutions work with partners from companies from different industries and expert advisors, e.g. through guest lecturers to enhance the relevance of their programmes.

Innovations and Adaptability in Family Businesses

Universities support innovation and adaptability in family businesses through research, innovation centres, and business incubators. By providing access to modern technologies and engaging in research projects together with the business sector, municipalities, and state institutions, universities contribute to creating an innovative environment that enables family businesses to adapt to a rapidly changing market environment. Stimula from the business sector for the sustainability of study programmes are highly desirable and welcomed by universities.

Heritage and Sustainability

Preserving family traditions and values is crucial for maintaining identity and the long-term functioning of family businesses and passing them down from generation to generation. Universities should support the sustainable development of family businesses through educational programs, social science and research projects focused on sustainable business, intangible cultural heritage protection, ESG, and other areas. Promoting these values and principles helps strengthen the position of family businesses as significant players in regional, national, and global environments. Tradition or innovation? It is essential to innovate, adapt to new conditions, face challenges, and seize opportunities while respecting and honouring traditions.

Family Business-Local Community Partnerships

Family businesses are deeply rooted in local communities and play an essential role in individual regions' economic and social development. The smaller the region, the greater the importance and influence of family businesses. In regions, the family is often associated directly with the family business, especially its founder. Universities should promote collaboration through educational programmes focusing on entrepreneurship and regional development. Equally important is the mutual connection through partnership projects and initiatives that link family businesses with local communities, organisations and municipalities. Family businesses are often the initiators of these meetings and networking opportunities.

Perspectives and Challenges

Numerous successful examples of collaboration exist between universities, family businesses, and other stakeholders, from which all parties benefit. However, there are also challenges, such as the need for effective coordination and cooperation between educational institutions and the business sector, the necessity for continual improvement and innovation of the educational programmes, workshops, and seminars offered so that they are meaningful, personalised, and effective for family businesses.

Table 9.1. The role of universities and their benefits to family businesses

Attribute	Universities and their role	Benefits to family businesses
Collaboration between universities and family business	the provision of educational programmes, social science and research projects and complementary services	strengthening managerial skills, gaining hands-on experience
Educating family business successors	providing comprehensive training programmes	preparing new generations of entrepreneurs for current and future challenges
Innovation and adaptability in family businesses	emphasis on innovation and adaptability	creating an innovative environment for adaptability to market conditions
Heritage and sustainability	promoting sustainable development, intangible cultural heritage, and values	strengthening the position of family businesses as important players in the business environment and community
Relations between family businesses and local communities	business development and regional development support. coordination of stakeholders	connecting with local communities and organisations to strengthen mutual relations and development
Perspectives and challenges	collaboration and coordination with the business sector, municipalities and state	effective coordination and collaboration to ensure relevant and well targeted support of family businesses

Source: own elaboration.

9.6. The Social and Economic Significance of Family Businesses

Family businesses have a significant social and economic impact on society. They employ a large number of people, which contributes to job creation and reduces unemployment. They are often more stable than other types of enterprises because they pursue long-term goals, sustainability and family values (Režňáková et al., 2022). Many family businesses are known for their ability to innovate and bring new products and services to the market. They support the local economy by purchasing goods and services from local suppliers and employing local people, and tend to have a long-term business vision, which can lead to more sustained growth. They can have a significant cultural impact on society as they often hold values that are important not only to the family but also to the local community. Many family businesses are active in community organizations and charitable projects, which contributes to the overall well-being of the community, and often have greater flexibility in decision-making, and can respond quickly to changes in the market (Naďová Krošláková et al., 2021). They are an important part of the heritage for future generations and can play a key role in preserving family traditions and values. In the case of family firms, this means socio-emotional wealth, in which context family firms pursue non-economic objectives (Gómez-Mejía et al., 2007).

The Prospects of Family Entrepreneurship

Today, it is crucial that family businesses are able to innovate and adapt to changing markets (Hsueh Wei-Jun et al., 2023). Trends and predictions for family businesses in the era of digitalisation and globalisation show that family businesses have great potential for growth and success. The ability of family businesses to leverage technology and new business models for growth is a key factor for the success of family businesses. Leveraging technologies such as artificial intelligence, automation, Big Data and the Internet of Things can help family businesses boost efficiency, increase productivity and improve the customer experience. It is also important to respect the values and traditions started by the founders of family businesses, often many generations ago. New business models can provide family businesses with new opportunities for growth and development. However, the key is not only the use of technology and new business models, but also the ability of family firms to adapt to changing markets and respond appropriately.

Welcoming the New Model of Family Business: Towards Future Prosperity with Optimism

The family business represents a continuous journey from traditional values and honest craftsmanship to a dynamic entrepreneurial heritage that adapts to today's challenges and innovations (Berrone et al., 2012). The transition from being a family business to business family not only demonstrates the adaptability and resilience of family businesses but also highlights their key role in the economic and social development of society. Maintaining a focus on quality, tradition and social responsibility while at the same time businesses are integrating new technologies and artificial intelligence into their business models ensures that family businesses remain important pillars of thriving local communities and society as a whole for generations to come. Today, it is crucial that family businesses are able to innovate and adapt to changing markets. The transition from family business to family entrepreneurship is a key factor for sustainable development and innovation. This evolutionary process not only enriches family heritage but also provides valuable lessons on flexibility, innovation and the importance of continuity of family values in business.



9.7. Conclusions

The evolution from family business to business family or family entrepreneurship marks a significant shift towards a more diversified and innovative approach in family enterprises. This new model emphasises the importance of adapting to changing markets while preserving core values and traditions. It highlights family businesses' crucial role in economic and social development, blending tradition with innovation for long-term growth. In embracing this change, inspired by newly designed study programmes tailored for the new successors of family businesses from Gen Z and Gen Alpha, one can look forward to a promising future for family enterprises, securing a lasting legacy for generations to come.

Building and strengthening relations and partnerships between universities and family businesses is crucial not only for the stakeholders themselves but also for the economy. Universities are indispensable in providing educational programmes, social science, research projects, and expertise. Educational programmes, in particular, are an essential pillar that enables family businesses to acquire the necessary skills and knowledge for successful development, as well as allows students to gain knowledge, learn skills, and apply them directly to their companies, helping them respond effectively to market challenges and opportunities. At the same time, through their work in family businesses, they bring up-to-date suggestions from practice to universities. Research projects carried out by universities in collaboration with practice bring new insights,

innovative solutions and best practices that can help family firms increase their competitiveness and successfully adapt to the changing market conditions.

There is the opportunity to conduct research directly in the students' companies, some of whom are owners or successors in family businesses. University training programmes offer an external perspective and professional expertise, some of which are targeted directly at successors in family businesses. Preserving values, traditions, and sustainability is essential to strengthening identity and the long-term success and growth of family businesses. Collaboration between universities, family businesses, and regional communities benefits economic and social development. Universities play a role in fostering this collaboration through partnerships, research and initiatives. Challenges such as the effective coordination between universities, the business sector, municipalities, the state, and other participants require the continuous innovation of educational programmes. This means the active involvement of educators and entrepreneurs in creating and developing strategies that will be truly relevant and effective for the development of family businesses so that they can successfully undergo generational change.

Acknowledgements. The study was created in preparing the student project 'Small Entrepreneurship and Traditional Production as Generators of Value for Sustainable Regional Development,' No. 7427/2023/02 using objective-oriented support for specific university research of the University of Finance and Administration.

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PART 3

Scientific Research as a Response to Changing Geopolitical and Social Conditions



CHAPTER 10

Housing Affordability in the Visegrád Countries

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Quote as: Ardielli, E., Kovács, R., Maciejasz, M., & Slavata, D. (2024). Housing Affordability in the Visegrád Countries. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 163-181). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.10](https://doi.org/10.15611/2024.92.5.10)

Abstract: Housing has always been, is and most likely will be a very sought-after and important good from the point of view of members of society. It has the potential to support households in fulfilling a whole range of their needs, and has many unique features, among which cost is a very important one. This means that a household must have sufficient financial resources to be able to purchase property. Housing affordability shows whether a typical family earns enough income to qualify for a mortgage loan on a typical home at the national and regional levels based on the most recent price and income data (Housing Affordability Index). It informs how easily a household can buy its own home based on its own income. The V4 countries have undergone an enormous economic transformation in the last 30 years, which also concerned the housing market. Thus this chapter aimed to compare Czech, Polish and Hungarian regions based on selected housing indicators and assess the level of housing affordability using the calculated Housing Affordability Index (SAI). The research was to determine whether similar trends were observed across the regions of the three Visegrád countries.

Keywords: housing affordability, Housing Affordability Index, Visegrád countries



10.1. Introduction

Real estate is primarily a tool for meeting one's own needs (housing), yet it is also a subject that should be treated in many aspects. Firstly, real estate has a potential to support households in fulfilling a whole range of needs. Secondly, thanks to real estate purchase, household can achieve various goals, both in the economic and financial dimension, as well as in the more personal, psychological and social ones. Thirdly, real estate serves many functions that concern many areas of human life. Fourthly, operating on the real estate market is quite complicated in formal terms and sometimes it is safer to use the services of professionals, i.e. an advisor, intermediary, manager or appraiser. At the same time, it may generate ethical problems resulting from the possibility of abuse by entities professionally dealing with the real estate. The goals pursued by households in this market depend to a large extent on their financial situation and activity of the public sector. The state can undoubtedly support the development of construction and the creation of new housing material directly and indirectly at various stages of investment project implementation, but it can also effectively inhibit initiatives undertaken by real estate market participants. All these elements determine housing affordability. State housing policy is therefore an important element in the process of meeting the housing needs of society, and the roles played by the state in solving housing problems will determine housing affordability within a given society in a given moment of time. Therefore, the aim of this chapter was to compare housing and its affordability in three of the four V4 countries: Czechia, Hungary and Poland.



10.2. Housing and Its Affordability

Housing (real estate, dwelling, accommodation) has always been, is and most likely will be a very sought-after and important good from the point of view of society. It is identified with a sense of security and freedom, and according to Maslow's pyramid of needs, and is in second place, right after biological needs (Gerrig & Zimbardo, 2001). Every person (family) strives to obtain their own premises, which gives them shelter from both weather conditions and undesirable situations, whilst it also contributes to ensuring the sense of independence associated with having the right to own the place of residence. Therefore, it is not surprising that every person (family) sets a life goal to buy or build their own apartment or house. The state should support society's efforts to achieve these goals. The reasons may be various, but the psychological aspect of this phenomenon is very important. Achieving personal goals always brings a subjective feeling of happiness. Satisfied individuals usually have a favourable

attitude towards organizations supporting them, which in this case should be the state, and translating this into political factors – the authorities ruling in the country at a given time. In turn, from the economic point of view, achieving housing goals causes the development of this market by stimulating demand for construction products. Housing affordability shows whether a typical family earns enough income to qualify for a mortgage (loan) on a typical home at national and regional levels based on the most recent price and income data (National Association of Realtors, 2024). It shows how easily a household can buy its own accommodation based on its own income.

Housing affordability can be determined by several factors including: the rate of inflation, the population size, the cost of housing, the loan interest rate, the rate of housing construction, the investment scale, the income level of the population, and the economic system's overall development level (Kleshcheva, 2021). In this context, a system of supporting citizens in their efforts to achieve their goals, including those related to meeting housing needs, is very important.



10.3. Housing Market in V4 Countries

In the current period of dynamic changes in the economy and society, the topic of housing policy and housing affordability is becoming increasingly important. The V4 countries are significantly affected by the consequences of the economic and energy crisis, facing high inflation, high interest rates and reduced performance of the construction sector. All these aspects are reflected in the current unaffordability of housing, especially for the socially disadvantaged and the young generations entering the labour market.

Czechia is according to Deloitte (2021) one of the countries with the lowest housing affordability in Europe. Real estate prices in Czechia are growing faster than household disposable income (OECD, 2021). Moreover, the V4 countries are among those where ownership housing traditionally prevails. The population has a low willingness to live in rented housing in the long term, which increases the demand for own housing even more. Nevertheless, it is estimated that there are up to 600,000 available flats in Czechia that have been unoccupied for a long time (Eurostat, 2020). It is the intention of the current government to use appropriate instruments to help bring these flats back to the market. Various policy options are being considered, such as an increase in property tax, which will affect the owners of the second and every other property, as well as reform measures in the form of grants for reconstruction, but also reducing the risk associated with renting out flats in the form of a state guarantee for tenants, which will encourage owners to offer the flat for rent. Currently for example, the Czech Housing Support Act is being drafted and comes with

a system of positive incentives for so-called guarantors who will guarantee tenants to owners. The guarantor can be a municipality, a region or other legal entities that provide social services or are engaged in real estate activities. Czech municipalities should therefore play an important role in terms of increasing housing affordability in the future, and should take on the role of guarantor. Regarding the possibility of municipalities owning their own housing stock, currently they do not usually have significant housing resources. The housing stock has largely been privatised, and the remainder are often in an unsatisfactory condition, without necessary investment in the long run and in many cases unoccupied. Municipalities should ensure their ability to become a guarantor of rental housing and be able to effectively manage their housing stock and offer social housing to groups in need.

The population of Hungary in 2022 numbered 9.69 million, and the number of housing units amounted to 4.58 million, i.e. 210 persons for 100 housing units. The indicator for population density by NUTS2 units was the lowest for Budapest (175 inhabitants for 100 units) and the highest for Pest County (257 inhabitants for 100 units), showing the strong suburbanisation process in the surroundings of Budapest (approximately Pest County) (Központi Statisztikai Hivatal [KSH], 2024).

The quality of Hungarian housing stock is better than the European average if we take some European deprivation indicator: only 5.4% of Hungarians suffered to not be able to protect adequately their housing in 2021 while European average was 6.9%. Yet, this indicator was significantly better for Czechia (2.2%) and Poland (3.2%) (Eurostat, 2022). A common phenomenon in former communist countries and among those in CEE is the high share of people living in housing owned by themselves or their family (household) members. For Hungary it is 91.7% and 86.8% for Poland and 78.3% for Czechia (Eurostat, 2022). In the case of Hungary this was product of the transition period (the late 1980s to the early 1990s) when public housing was privatised, partly as a popular act, and partly the pass the duty of renovation onto new owners.

While the entire housing stock in Hungary increased by 2% between 2000 and 2020, the municipal stock decreased by 40%. Faster decrease was experienced by the public housing in Budapest where in two decades half of it disappeared. Even so in 2022, 35% of municipal housing in Budapest numbered 39 736 units. The smallest housing stock of Hungarian regions is that of Pest County, the 3% of the municipal stock and 11% of all Hungarian residential accommodation.

Housing affordability is twofold. On the one hand it means accesses to living somewhere by renting or purchasing, and on the other it is ability cover cost related to the housing. Daily (monthly) housing expenditures in Hungary in 2021 assured a relatively good position for its citizens, representing 12.5% of their disposable income whose share is 1.54% lower than the EU average (19.3%). This position seems to be much better than in other countries of the regions given that Czech (19.3%) and Polish (17.9%) values are closer to those of the EU.

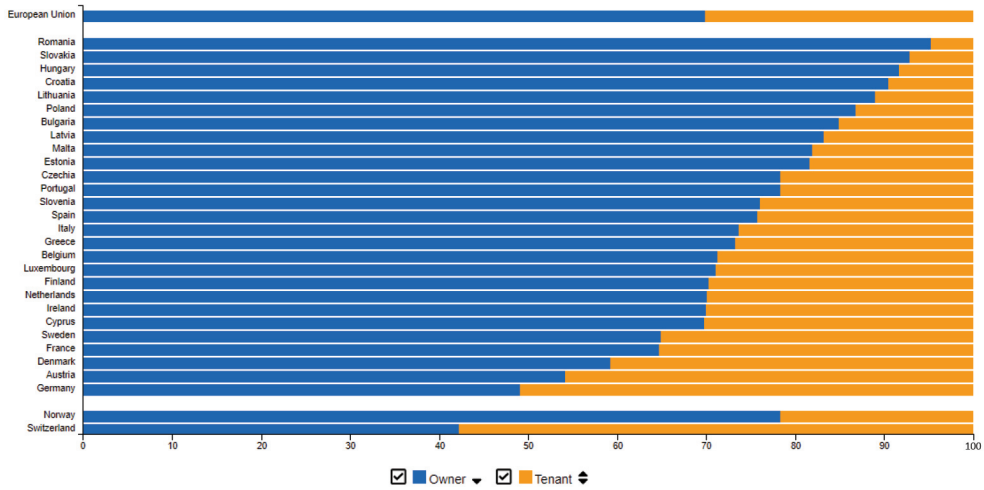


Fig. 10.1. Share of people living in households owning or renting their home, 2021

Source: (Eurostat, 2022).

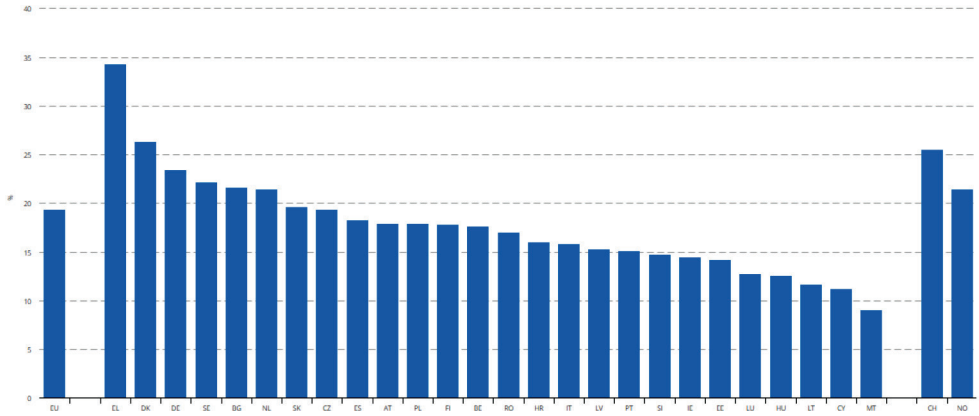


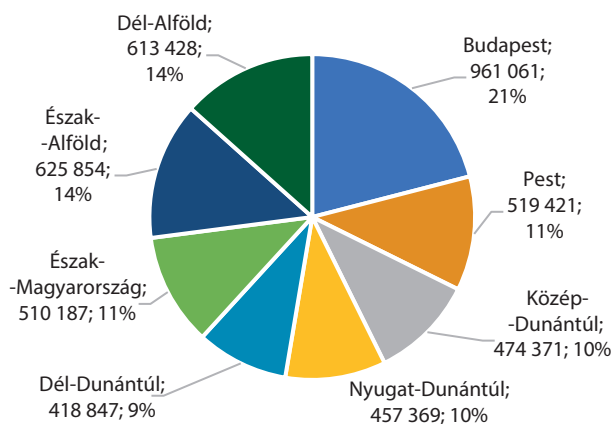
Fig. 10.2. Housing costs in disposable income, 2021

Source: (Eurostat, 2022).

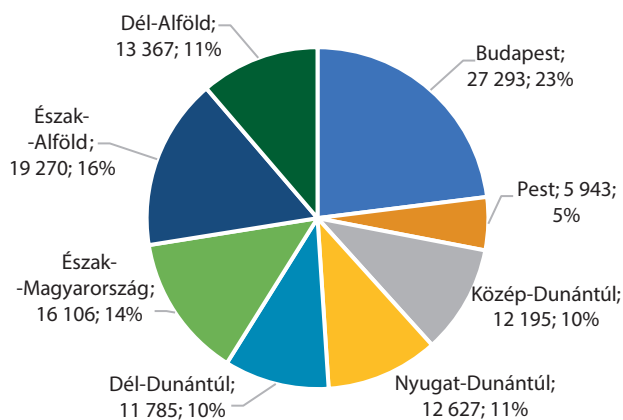
Secondly, to buy secondary-market housing, the average Hungarian needed 6.8 total yearly disposable income in 2022. In poorer regions this value was lower (4.2 years for Észak-Magyarország) and was close to double for Pest County (12.3 years, Budapest's agglomeration). However, for the Budapest itself, it stayed under 10 years (9.8 years). These numbers were quite stable during the last five years for Pest County, which experienced a significant (50%) increase from 8.4 years (2017) to

12.3 (2020). This phenomenon can be related to the government policy of help for families to get a home on better financial conditions, affecting mainly those areas where they represent a higher share of the population.

In 2022, based on data from the Hungarian Statistical Office, the market of secondary housing registered 118 586 transactions. This corresponds to 2.6% of the housing stock, i.e. 25.89 transactions per 1000 housing units. It is difficult to determine regional disparities, except for Pest. The value for Budapest (28.40 transaction for 1000 units) was not significantly higher than in other regions. However, in Pest the number of registered transactions in 2022 was relatively low (11.44 transactions per 1000 units).



(a) Distribution of housing stock by regions



(b) Distribution of housing transactions by regions

Fig. 10.3. Housing stock and transactions in Hungary, 2022

Source: (KSH, 2024).

For housing rentals in the municipal sector there were no big differences among the regions in 2022; rentals varied between 0.88 EUR/m² (Dél-Dunántúl) and 1.42 EUR/m² (Pest).¹ In the case of municipal housing, individual situation can determine the reasons for the price. Moreover, the municipal rental market is divided into three type of rentals (social housing – the biggest share [50%], costs-related rental [29%], and rented at market price [16%]). The last five years showed the increase of proportional cost of renting and shrinking social renting for municipal stock. At the same time, market rental prices varied between 5.40 EUR/m² (Észak-Magyarország) and 9.32 EUR/m² (Budapest). Market prices were higher for Budapest (9.32 EUR/m²) and Pest (7.37 EUR/m²) in 2022.

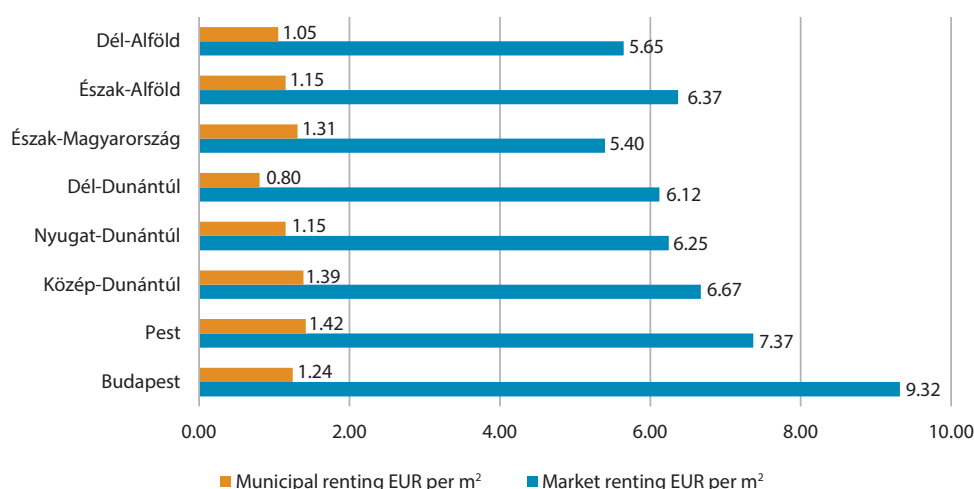


Fig. 10.4. Housing rentals for market and municipal sector, 2022

Source: (KSH, 2024; ingatlan.com).

Investments in housing represented 5.8% of EU GDP in 2021. This number was a bit lower for Czechia (4.7%), much lower for Hungary (3.9%) and even lower for Poland (2.3). The lower interest for housing investment was also reflected in the issuing of new building permits and new constructions.

In Hungary, the building of housing by construction companies is encouraged with a lower (5%) value added tax rate from 2022, and investment by private persons is influenced by stricter energy efficiency inscriptions. In summary, constructions by companies decreased slowly from 66 to 60% in one year. A positive sign in housing investment was the increase of the number of housing loans in 2016 by 32%,

¹ Prices were converted into euros based on the conversion rate of the Hungarian National Bank on 30 December 2022: 400.25 HUF/EUR.

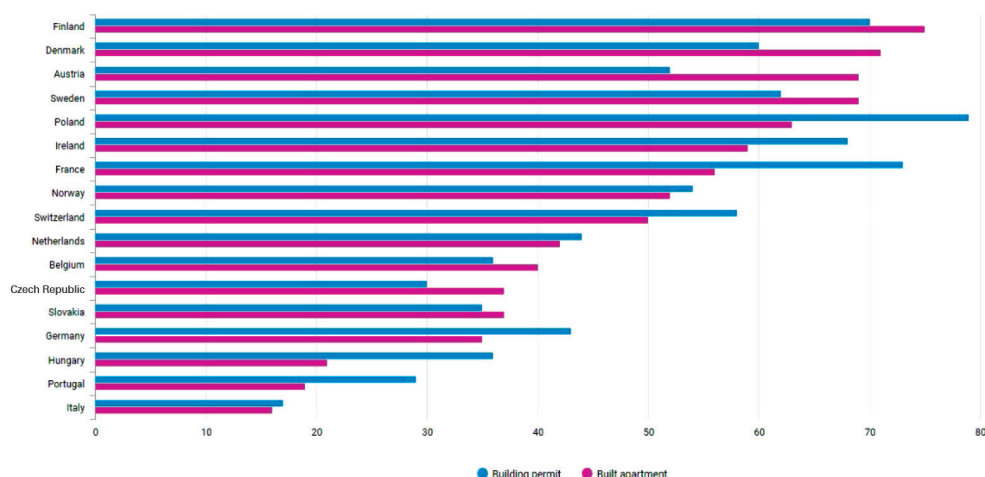


Fig. 10.5. Number of building permissions and built dwelling per ten thousand inhabitants in EU countries, 2022

Source: (KSH, 2024; buildcon).

from 9.36 billion EUR to 12.32 billion EUR.² Interestingly, while subsidies for housing stagnated (−0.3%), the non-subsidised investment increased by 41.4%. In general, approximately half of housing loans was used for purchases in secondary property market. From the second half of 2022, new housing loans shrank by 31%. Housing subsidies amounted to EUR 1.64 billion in total for the period between 2016 and 2022.³ Again more than a half was used to buy secondary housing and around 1/3 to buy or to build new housing.

The housing situation in Poland has been improving in recent years. Data from the Central Statistical Office show that in the period 2013-2023 the number of dwellings put into use increased from 145 thousand to 220 thousand, which constitutes over a 50% increase (Ministerstwo Rozwoju i Technologii, 2024). At the same time, the number of apartments per 1,000 inhabitants increased from 359.9 to 412.4 (2022), which is over 14% more. The average size of the apartment is also increasing (73.1 in 2013 and 75.3 in 2022), the average usable area in m² per person (26.3 in 2013 and 31.1 in 2022), while the number of people per apartment is decreasing (2.78 in 2013 and 2.42 in 2022). These data show quite a positive picture of the Polish housing market,

² Prices were converted into euros based on the conversion rate of the Hungarian National Bank respectively on 30 December 2016: 311.02 HUF/EUR, and on 30 December 2022: 400.25 HUF/EUR.

³ Prices were converted into euros based on the conversion rate of the Hungarian National Bank corresponding to the official conversion rate of the last day of the year, i.e. 2016: 311.02; 2017: 310.14; 2018: 321.51; 2019: 330.52; 2020: 365.13; 2021: 369.00; 2022: 400.25 HUF/EUR.

but regarding its affordability it seems not so clear. There are people – even those with average, not the lowest income – who have a problem meeting their housing needs, but also, after paying all the bills and fees related to their home, they do not have enough money for a decent life. The problem is not only the high rate of housing costs, but also a rental gap that concerns over one-third of the population. According to Eurostat, Poles spend on average 17.9% of their income on housing costs. This is still slightly below the European average of 18.9% (*W Polsce brakuje...*, 2024). The Habitat for Humanity Foundation notes that in Poland there has been no statistical housing deficit since at least 2009, and there are even 1.3 million more apartments than households. However, their prices are too high for a single family, also in relation to wages. The problem is made worse by the fact that in Poland, 60% of newly built houses and apartments are development investments (*W Polsce brakuje...*, 2024). This shows the importance of state and municipal policy, and developing adequate legal solutions to support households in increasing housing affordability.

10.4. Methods and Data

There are various approaches to measuring housing affordability (Anacker, 2019; Czischke & van Bortel, 2018). The predominant method involves comparing financial aspects of housing affordability, typically by examining ratios of financial index numbers. The most commonly employed indicators include the income-to-price ratio and the income-to-rent ratio (Bieri, 2014). Another approach considers the physical aspect of affordability, focusing on metrics such as the quantity of housing units built or available within the economy (Urban Reform Institute [URI], 2022). However, relying solely on separate indicators may not offer a comprehensive view of the issue. Thus, there is a need to develop new methodologies in the realm of housing affordability assessment.

This chapter introduces a novel evaluation methodology that offers a more comprehensive assessment of housing affordability. This methodology encompasses four fundamental indicators, both financial and physical in nature, which include IR (income-to-rent ratio), IP (income-to-price ratio), FS (number of flats for sale per 1000 inhabitants), and FR (number of flats for rent per 1000 inhabitants). The indicators are logically defined. A higher value of the indicator signifies better housing affordability. The calculated indicator (SAI) encapsulates the comprehensive level of housing affordability in the region. The SAI is computed according to formula (1):

$$SAI = \frac{(FR * FS) + (FS * IP) + (IP * IR) + (IR * FR)}{2}, \quad (1)$$

where: FR – flats for rent per 1000 inhabitants, FS – flats for sale per 1000 inhabitants, IP – income to price ratio, IR – income to rent ratio.

The calculation of FR , FS , IP and IR ratio is summarised in formulas (2), (3), (4) and (5):

$$FR \text{ ratio} = \frac{Fr}{Inh.}, \quad (2)$$

where: Fr – flats for rent in the housing market, $Inh.$ – population of region.

$$FS \text{ ratio} = \frac{Fs}{Inh.}, \quad (3)$$

where: Fs – flats for sale in the housing market, $Inh.$ – population of region.

$$IP \text{ ratio} = \frac{I}{P}, \quad (4)$$

where: P – average flat price per m^2 , I – average year personal income.

$$IR \text{ ratio} = \frac{I}{R}, \quad (5)$$

where: R – average year rent per 67 m^2 flat, I – average year personal income.

The primary source of data for describing the Czech real estate market was the Internet analytical portal Tržní ceny (2024). Information regarding the Polish real estate market was sourced from Otodom (2024). The data describing Hungarian real estate market were obtained from Realestate (2024).

The data covered details on flat prices, rental rates, and the proportion of flats available for sale. Additional necessary data were obtained from the official national statistical offices (Český Statistický Úřad [CZSO], 2023), (Główny Urząd Statystyczny [GUS], 2023) and (Központi Statisztikai Hivatal [KSH], 2022) particularly focusing on information delineating salary levels in Czech, Polish and Hungarian regions, respectively. The analysis reflects the real estate market situation as of April 2024.

10.5. Results

This chapter compares Czech, Polish and Hungarian regions based on selected housing indicators and assess the level of housing affordability using the calculated Housing Affordability Index (SAI), comparing 90 regions. The research aimed to determine whether similar trends were observed across the regions of the three Visegrád countries.

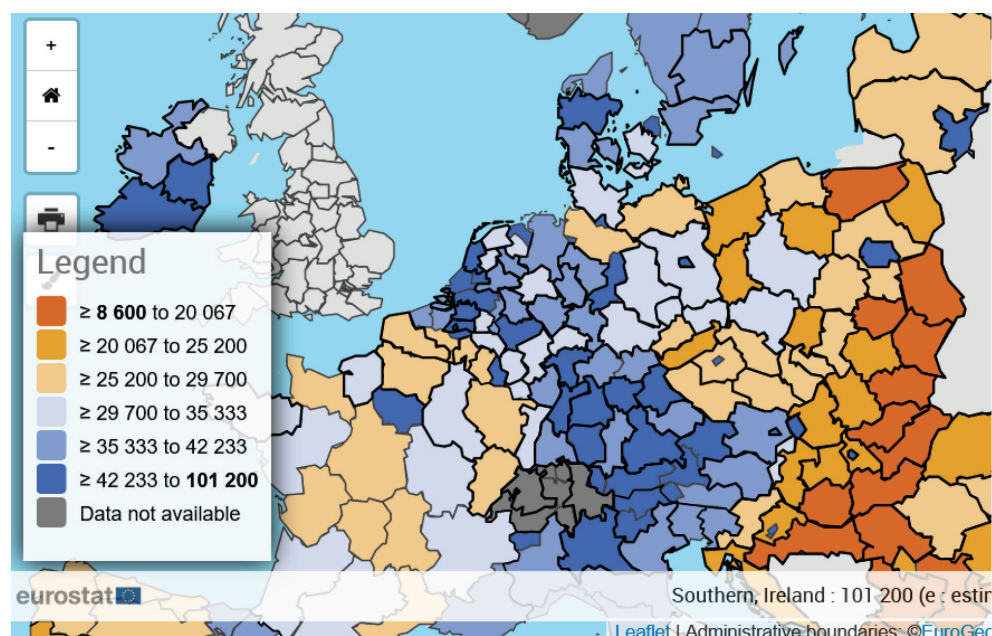


Fig. 10.6. Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions

Source: (Eurostat, 2022).

Czechia is divided into 14 self-governing regions and 6,253 municipalities. Outside of Prague, the territory is further divided into 76 districts. The regions of Czechia serve as higher-level territorial self-governing units within the country. A summary of Czech regional data is available in Tab. 10.1.

Table 10.1. Housing market regional data in Czechia (April 2024)

Region	Prices/m ² (thousand CZK)	Sale ads (number)	Month rent/m ² (CZK)	Rent ads (number)	Average monthly gross wages (CZK)	Population in 2023
1	2	3	4	5	6	7
Prague	128.8	2 648	424	3 128	53 347	1 357 326
Jihomoravský kraj	73.0	863	286	1 066	42 399	1 217 200
Středočeský kraj	68.3	1 091	246	641	43 992	1 439 391
Liberecký kraj	58.2	582	220	321	39 156	449 171
Zlínský kraj	56.8	327	230	325	39 160	580 531
Královéhradecký kraj	56.7	472	205	263	40 471	555 267
Jihočeský kraj	54.5	720	211	379	39 663	652 303
Plzeňský kraj	52.3	480	222	331	41 333	605 388

Table 10.1, cd.

1	2	3	4	5	6	7
Karlovarský kraj	51.5	806	186	252	37 470	293 595
Pardubický kraj	49.6	384	209	321	38 647	528 761
Kraj Vysočina	49.5	275	208	168	39 771	514 777
Olomoucký kraj	48.9	465	207	399	39 023	631 802
Moravskoslezský kraj	42.7	909	189	1 324	39 329	1 189 674
Ústecký kraj	30.3	1 367	187	913	40 122	812 337

Source: (CZSO, 2023; Tržní ceny, 2024), own calculations.

When comparing the Czech regional data, the highest prices for flats are found in the Prague region (128,800 CZK/m²). Both flat prices and rents are notably higher in Prague compared to other Czech regions. Moreover, Prague boasts the highest number of flats available for sale (2648) and rent (3128) on the housing market. Additionally, Prague records the highest average annual salary (53,347 CZK).

The lowest flat prices are observed in the Usti region (Ústecký kraj, 30,300 CZK/m²). The lowest number of flats for sale is found in the Highlands region (Kraj Vysočina (275). The lowest rent is reported in the Karlovy Vary region (Karlovarský kraj, 186 CZK/m²/month). Finally, the lowest average annual salary is reported in the Karlovy Vary region (37,470 CZK).

Table 10.2 presents the fundamental housing indicators for Czechia, including the resulting SAI values for its regions. The data reveals that the South Moravian (Jihomoravský kraj) region exhibits the lowest housing affordability, with an SAI value of 11.46. Conversely, the Usti region (Ústecký kraj) boasts the highest SAI value (41.56), indicating the highest housing affordability. Surprisingly, the Prague region does not have the lowest housing affordability; its SAI value is 13.93.

Poland's administrative division follows a three-tiered structure. The country is divided into voivodeships (provinces), which are then subdivided into powiats (counties or districts), and finally into gminas (communes or municipalities). Currently, Poland comprises 16 voivodeships, 380 powiats (including 66 cities with powiat status), and 2,478 gminas. A summary of Polish regional data is available in Tab. 10.3.

When analysing Polish regional data, the highest flat prices are found in the Małopolskie voivodeship (16,000 PLN). Rentals are notably higher in the Mazowieckie region than in other Polish regions (84.7 PLN/m²/month). Furthermore, the Mazowieckie region boasts the highest number of flats available for sale (10,317) and for rent (8,124) on the housing market. Additionally, this region records the highest average annual salary (8,943 PLN).

Table 10.2. Affordability index SAI in the Czech regions (April 2024)

Region	Flats for sale/ 1000 inh.	Flats for rent/ 1000 inh.	Income/ price	Income/ rent	$(FR \times FS)/2$	$(FS \times IP)/2$	$(IP \times IR)/2$	$(IR \times FR)/2$	SAI
Prague	1.95	2.30	4.97	1.88	2.25	4.85	4.67	2.16	13.93
Jihomoravský kraj	0.71	0.88	6.97	2.21	0.31	2.47	7.71	0.97	11.46
Středočeský kraj	0.76	0.45	7.73	2.67	0.17	2.93	10.31	0.59	14.01
Liberecký kraj	1.30	0.71	8.07	2.66	0.46	5.23	10.72	0.95	17.37
Zlínský kraj	0.56	0.56	8.27	2.54	0.16	2.33	10.51	0.71	13.71
Královéhradecký kraj	0.85	0.47	8.57	2.95	0.20	3.64	12.62	0.70	17.16
Jihočeský kraj	1.10	0.58	8.73	2.81	0.32	4.82	12.25	0.82	18.21
Plzeňský kraj	0.79	0.55	9.48	2.78	0.22	3.76	13.18	0.76	17.91
Karlovarský kraj	2.75	0.86	8.73	3.01	1.18	11.98	13.13	1.29	27.58
Pardubický kraj	0.73	0.61	9.35	2.76	0.22	3.40	12.90	0.84	17.36
Kraj Vysočina	0.53	0.33	9.64	2.85	0.09	2.58	13.76	0.47	16.89
Olomoucký kraj	0.74	0.63	9.58	2.81	0.23	3.52	13.47	0.89	18.12
Moravskoslezský kraj	0.76	1.11	11.05	3.11	0.43	4.22	17.16	1.73	23.54
Ústecký kraj	1.68	1.12	15.89	3.20	0.95	13.37	25.44	1.80	41.56

Source: (CZSO, 2023; Tržní ceny, 2024), own calculations.

Table 10.3. Housing market regional data in Poland (April 2024)

Voivodeship	Prices/m ² (thousand PLN)	Sale ads (number)	Month rent/m ² (PLN)	Rent ads (number)	Average monthly gross salary in corporate sector (PLN)	Population in 2023
Mazowieckie	14.8	10 317	84.7	8 124	8 943	5 510 612
Śląskie	6.8	7 247	41.3	1 382	7 714	4 346 702
Wielkopolskie	12.2	3 676	47.6	2 158	7 078	3 493 577
Małopolskie	16.0	5 242	62.2	3 351	7 943	3 429 014
Dolnośląskie	11.7	8 799	58.9	3 414	8 140	2 888 033
Łódzkie	9.3	3 080	43.9	1 389	7 294	2 378 483
Pomorskie	11.7	7 018	52.9	1 727	7 854	2 358 307
Lubelskie	9.2	1 912	44.2	500	6 835	2 024 637
Podkarpackie	9.0	1 242	10.9	546	6 568	2 079 098
Kujawsko-pomorskie	8.4	4 072	40.2	1 064	6 785	2 006 876
Zachodniopomorskie	8.3	5 280	54.5	1 120	7 295	1 640 622
Warmińsko-mazurskie	9.5	1 568	39.3	221	6 699	1 366 430
Świętokrzyskie	8.0	778	37.6	167	6 649	1 178 164
Podlaskie	8.4	1 340	35.5	368	6 504	1 143 355
Lubuskie	7.0	1 498	40.2	339	7 143	979 976
Opolskie	6.6	1 024	37.8	196	7 168	942 441

Source: (GUS, 2023; Otodom, 2024), own calculations.

The lowest flat prices are observed in the Opolskie region (6,600 PLN/m²). The lowest number of flats for sale is in the Świętokrzyskie region (778). The lowest number of flats for rent is also reported in the same province (167). Meanwhile, the lowest rental price was reported in the Podkarpackie region (10.9 PLN/m²/month). The lowest average annual salary was found in the Świętokrzyskie region (6,649 PLN).

Table 10.4 presents the fundamental housing indicators in Poland, including the resulting SAI values for the regions across the country. The data reflects the lowest housing affordability in the Małopolskie region, with an SAI value of 11.9. Conversely, the Podkarpackie region exhibits the highest SAI value, indicating the highest housing affordability there (SAI = 43.2). This result stems probably from the fact that housing costs the Małopolskie region, especially in Cracov and the Tatra zone, are the highest. This region is very attractive for tourists, for students and workers, which stimulates prices. Prices of housing in the Podkarpackie region are not the lowest, but wages are almost the lowest.

Table 10.4. Affordability index SAI in the Polish regions (April 2024)

Region	Flats for sale/ 1000 inh.	Flats for rent/ 1000 inh.	Income/ price	Income/ Rent	$(FR \times FS)/$ 2	$(FS \times IP)/$ 2	$(IP \times IR)/$ 2	$(IR \times FR)/$ 2	SAI
Mazowieckie	1.87	1.47	7.27	1.58	1.38	6.81	5.73	1.16	15.07
Śląskie	1.67	0.32	13.62	2.79	0.27	11.36	19.00	0.44	31.07
Wielkopolskie	1.05	0.62	6.95	2.22	0.32	3.66	7.72	0.69	12.38
Małopolskie	1.53	0.98	5.95	1.91	0.75	4.55	5.67	0.93	11.90
Dolnośląskie	3.05	1.18	8.33	2.06	1.80	12.69	8.60	1.22	24.30
Łódzkie	1.29	0.58	9.42	2.48	0.38	6.10	11.68	0.72	18.89
Pomorskie	2.98	0.73	8.02	2.21	1.09	11.94	8.89	0.81	22.73
Lubelskie	0.94	0.25	8.87	2.31	0.12	4.19	10.24	0.29	14.83
Podkarpackie	0.60	0.26	8.75	8.99	0.08	2.61	39.33	1.18	43.20
Kujawsko-pomorskie	2.03	0.53	9.73	2.52	0.54	9.88	12.26	0.67	23.34
Zachodnio-pomorskie	3.22	0.68	10.53	2.00	1.10	16.95	10.51	0.68	29.24
Warmińsko-mazurskie	1.15	0.16	8.48	2.54	0.09	4.86	10.79	0.21	15.95
Świętokrzyskie	0.66	0.14	9.95	2.64	0.05	3.28	13.12	0.19	16.64
Podlaskie	1.17	0.32	9.29	2.73	0.19	5.45	12.70	0.44	18.78
Lubuskie	1.53	0.35	12.22	2.65	0.26	9.34	16.21	0.46	26.27
Opolskie	1.09	0.21	13.09	2.83	0.11	7.11	18.54	0.29	26.06

Source: (Otodom, 2024; GUS, 2023), own calculations.

Hungary's administrative division is organized into three levels. The territory of Hungary is divided into 7 NUTS 2 regions⁴ and 19 counties (known as *megyék* in Hungarian) plus Budapest at NUTS 3 level. These counties are further subdivided into districts (*járások*), and within these districts are municipalities or towns (*települések*). Currently, Hungary consists of 174 districts, and approximately 2,900 municipalities. However, self-government exists only at county and district level. Districts are used as the local level central government organisations like government offices, and regions serve purely as European planning units. A summary of Hungarian regional data is available in Tab. 10.5. In the following tables, because of reasons of comparability the authors used the traditional division in NUTS 2 regions (7 units):

Table 10.5. Housing market regional data in Hungary (April 2024)

Region	Prices/m ² (mln HUF)	Sale ads (number)	Month rent/m ² (thousand HUF)	Rental ads (number)	Average year gross salary (HUF)	Population (2022)
Közép-Magyarország	1.139	32 069	4.514	8601	3 618 257	2 963 205
Közép-Dunántúl	0.890	4 546	3.448	607	3 314 380	1 040 689
Nyugat-Dunántúl	0.689	5 464	3.112	462	3 065 138	984 221
Dél-Dunántúl	1.036	6 792	3.094	578	2 699 298	844 780
Észak-Magyarország	0.741	3 653	2.742	519	2 630 100	1 079 537
Észak-Alföld	0.802	4 317	3.417	795	2 666 423	1 391 476
Dél-Alföld	0.642	3 353	3.047	511	2 744 467	1 189 224

Source: (Realestate, 2024; KSH, 2022), own calculations.

Comparing the Hungarian regional data, the highest flat prices are found in the Central Hungary (Közép-Magyarország) region (1.139 mln HUF/m²), rental prices are also notably higher in that region (4,514 HUF/m²/month), with the highest number of flats available for sale (32,069) and to rent (8,601). Additionally, the region has the highest average year gross salary (3,618 thousand HUF), being the most developed area of the country, with a significantly more intensive economy. Not only wages and prices are higher, but also the number of ads regarding sale or rental of housing are is than the rest of the country in total.

The lowest flat prices are observed in the South-Great Plains (Dél-Alföld) region (0.642 mln HUF/m²), as well as the lowest number of flats for sale (3,353). The lowest number of flats for rent is reported in West-Transdanubia (Nyugat-Dunántúl, 462), and the lowest rental prices in the Northern Hungary (Észak-Magyarország) region (2,742 HUF/m²/month); the lowest average year gross salary was also reported there (2,630 thousand HUF).

⁴ From 1 2018, the number of NUTS 2 region in Hungary is 8 while Central Hungary (Közép-Magyarország) was divided into Budapest and Pest.

Table 10.6. Affordability index SAI in the Hungarian regions (April 2024)

Region	Flats for sale/ 1000 inh.	Flats for rent/ 1000 inh.	Income/ price	Income/ rent	$(FR \times FS)/2$	$(FS \times IP)/2$	$(IP \times IR)/2$	$(IR \times FR)/2$	SAI
Közép- -Magyarország	10.82	2.90	3.18	1.00	15.71	17.20	1.58	1.45	35.93
Közép- -Dunántúl	4.37	0.58	3.72	1.20	1.27	8.13	2.23	0.35	11.98
Nyugat- -Dunántúl	5.55	0.47	4.45	1.23	1.30	12.35	2.72	0.29	16.66
Dél-Dunántúl	8.04	0.68	2.61	1.09	2.75	10.47	1.41	0.37	15.01
Észak- -Magyarország	3.38	0.48	3.55	1.19	0.81	6.00	2.12	0.29	9.22
Észak-Alföld	3.10	0.57	3.33	0.97	0.89	5.16	1.61	0.28	7.94
Dél-Alföld	2.82	0.43	4.27	1.12	0.61	6.03	2.39	0.24	9.27

Source: (Realestate, 2024; Központi Statisztikai Hivatal [KSH], 2022), own calculations.

Table 10.6 summarised the basic housing indicators in Hungary. The lowest housing affordability in Hungary was shown in the North-Great Plains region, with a SAI value of 7.94. The highest SAI value was recorded in the Central Hungary region, indicating the highest housing affordability (SAI = 35.93), which is two times higher than any other in the country. The data also shows a country divided in three parts: (1) Central Hungary with the better affordability value, (2) the western regions, specially West and South Transdanubia at an intermediate level, and (3) the eastern part of the country with the lowest SAI indicators value.

10.6. Conclusions

As mentioned at the very beginning of this chapter, Visegrád countries have undergone huge economic transformation in the last 30 years. This also concerned the housing market – from state regulated to a highly self-regulated one. This means that housing became a market good, whose accessibility is determined mainly by the individual financial capacity of a household, which strongly differentiates market participants and determines housing affordability. Thus the aim of this chapter was to compare Czech, Polish and Hungarian regions according to the current housing market situation. The purpose of the research was to determine whether similar trends were observed across the regions of the three Visegrád countries. To do this, selected housing indicators and Housing Affordability Index (SAI) were calculated.

According to the survey, it appears that the lowest housing affordability according to the SAI index in 2024 was found in Hungarian regions (North Great Plains, Northern Hungary and South Great Plains), followed by the Czech region of South Moravian Region and the Polish region of Małopolskie, whereas the greatest affordability of housing was found in other Polish regions, and further in the Czech region of the Ústí Region and in the Central Hungary region. These results prove that states and municipalities play an important role in determining housing affordability and that their policies can modify the housing market situation.

Acknowledgements. This chapter was created with the financial support of project No. CZ.11.3.119/0.0/0.0/16_013/0003093 'Increasing the knowledge and skills of university students in the field of implementation of public policies in Czechia and Poland and improving their applicability in the labour market' (Programme Interreg V-A Czech Republic-Poland).

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CHAPTER 11

The Consolidation Package and Its Impact on the Business Sector and Universities as Key Educational Institutions

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Quote as: Schlossberger, O. & Tomášková, A. (2024). The Consolidation Package and Its Impact on the Business Sector and Universities as Key Educational Institutions. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 182-194). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.11](https://doi.org/10.15611/2024.92.5.11)

Abstract: The Parliament of the Czech Republic has approved the Act on Consolidation of Public Budgets. The consolidation package introduced substantial changes on the expenditure and revenue side of the budget with the aim of stabilising public finances and reducing the government debt deficit. These measures will have an impact on the public sector, businesses and households, both internationally and regionally. The importance of universities as a key factor for the country's economic development and competitiveness is emphasised.

Keywords: Czechia, consolidation package, business sector, universities, public finances



11.1. Introduction

Czechia's debt ratio and budget deficit are rising. The associated standard of living, especially as perceived by society, is declining, hence the recovery of public finances is important for both fiscal (with implications for the monetary sphere) and social reasons. All governments know and have known about this long-term problem. Attempts at remediation can be traced in the period c. 2014-2019 (see Fig. 11.1), or even in the years after 2008. However, it was not until the turn of 2023 and 2024 that some major changes in Czechia's economic policy took place. The measures adopted affected mainly the

area of taxation, but also some related facts. A consolidation package was adopted, approved at the level of a generally binding legislation, which was Act No 349/2023 Coll., amending certain acts in connection with the consolidation of public budgets (Zákon č. 349/2023 Sb). It was set to take effect globally on 1 January 2024, but some selected provisions will come into power in subsequent years (2025-2027).

In recent history, Czechia has been trying to consolidate public budgets since January 2008, when it adopted the first ever law that tried to stabilise (consolidate) public budgets. This was Act No 261/2007 Coll., on stabilising public budgets, which, among other things, raised electricity tax, gas tax and the tax on solid fuels (Zákon č. 261/2007 Sb). These taxes are generally referred to in the Czech tax system as ecological taxes.

The main reasons for the adoption of the consolidation package in 2023 were:

- efforts to consolidate public finances (i.e. reduce the national budget deficit),
- to address the consequences of high government budget deficits, which had an impact on the downgrade of Czechia's rating (before the consolidation package was adopted); after the adoption of the package, Moody's and Fitch affirmed Czechia's rating at Aa3 with a stable outlook,
- help tackle high inflation,
- eliminate the loss of tax efficiency (i.e. address the higher cost of tax collection).



11.2. Background

The performance of the general government sector in 2022 was largely influenced by developments in the security and geopolitical situation in Europe. At the same time, public finances were burdened by measures that significantly and permanently reduced the tax burden during the pandemic. The government's deficit management was reflected in the level of debt, which was estimated to increase by 2.6% to 44.6% of GDP in 2022. The National Budget Council states on its website a debt figure of 44.2 (Národní Rozpočtová Rada [NRR], 2024).

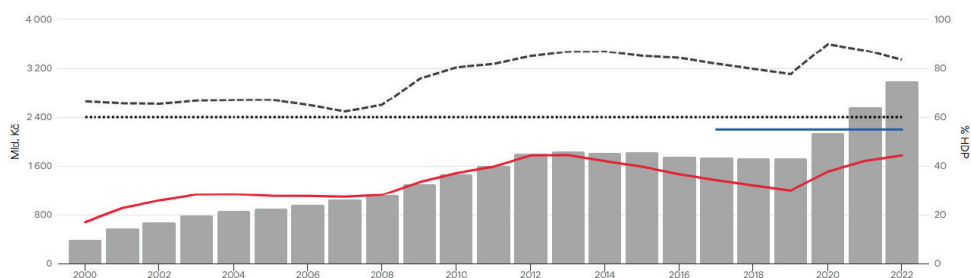
Nevertheless, Czechia's public finances were the seventh (some sources say ninth) least indebted in the EU in 2023, with debt estimated at 45.8% of GDP. At the end of the first quarter, Greece (168.3%), Italy (143.5%), Portugal (113.8%), Spain (112.8%) and France (112.4%) had the highest debt-to-GDP ratios, while Estonia (17.2%), Bulgaria (22.5%), Luxembourg (28%) and Denmark (29.4%) had the lowest (Kahánek, 2023). However, it should be remembered that Czechia is a small open and pro-export oriented economy and does not have as strong an economic potential as more indebted countries such as France or Germany, whose public debt-to-GDP ratio is about 66.1% (NRR, 2024), the so-called debt brake.

The pandemic, the adopted anti-epidemic measures and their accompanying effects have had an impact on the state budget and thus on the overall increase in the need for financing in 2020 and 2021. The state debt increased by CZK 825.5 billion from CZK 1,640.2 billion (at the end of 2019) to CZK 2,465.7 billion (–at the end of 2021), due to the increased emission activity during these years.

In relative terms to GDP, it increased from 28.3% in 2019 to 40.4% at the end of 2021, i.e. by 12.0%. In 2022, the government debt increased to CZK 2,894.8 billion, namely by 42.7% relative to GDP.

For 2023, an increase in the government debt of CZK 3 191.3 billion (43.7% of GDP), was foreseen. The government debt represents the indebtedness of central government budget organisations in the form of government-issued bonds, government borrowings and loans or issued bills of exchange at the end of the year. If the liabilities of local governments, health insurance companies, extra-budgetary funds and other institutions belonging to the public budget system are added to the national debt, the amount of public debt (also known as ‘government debt’ or ‘general government debt’) is obtained. For the interpretation as to how countries and governments are coping with their debts, it is useful to compare the debt-to-GDP ratio in addition to the absolute amount of debt. This shows how high the debt is compared to the size of the country’s economy.

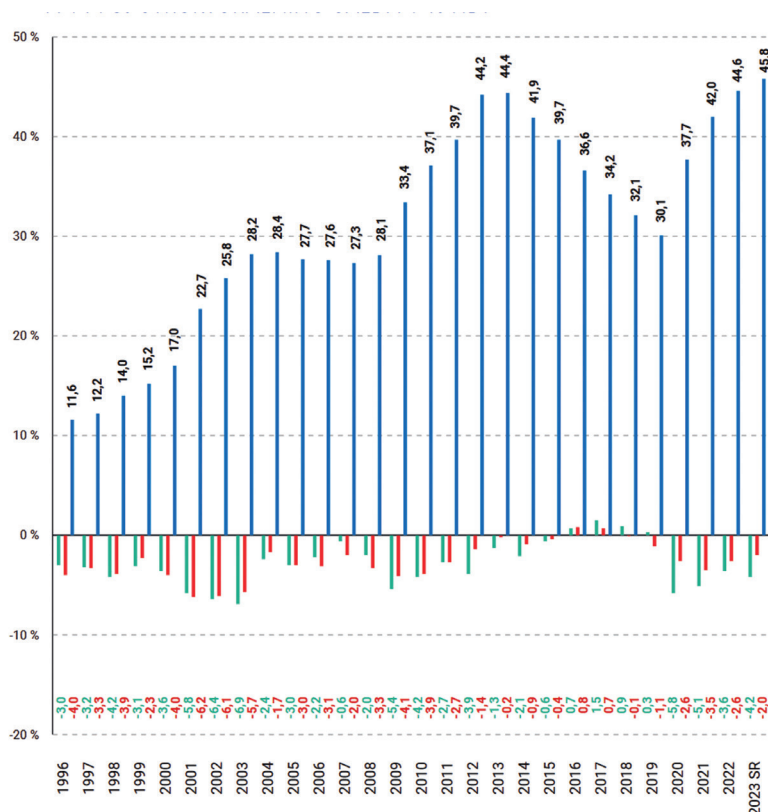
However, the important indicator is not only the level of debt to GDP, but also its dynamics. Countries like Czechia may appear relatively less indebted when debt to GDP is expressed, yet there is often talk of public finances being in tatters. The reason for this claim is precisely the debt dynamics – i.e. the significant debt growth and the lack of planned fiscal consolidation (NRR, 2024).



Explanatory notes: grey bars – debt of the Czech government sector (CZK billion – left axis); red curve – general government debt (% of GDP, right axis); blue curve – debt brake applied in Czechia (55% of GDP, right axis); grey dashed line – average debt of EU governments (% of GDP, right axis); dotted line – Maastricht debt criterion (60% of GDP, right axis).

Fig. 11.1. Public debt (general government debt)

Source: (NRR, n.d.).



Explanatory notes: green bars – general government balance; red bars – structural balance; blue bars – general government debt.

Fig. 11.2. Evolution of general government debt and balance as % of GDP and evolution of the structural balance as % of GDP

Source: (NRR, 2024).

Regarding Fig. 11.1, it is worth noting that for general government debt it is useful to look not only at the debt-to-GDP ratio (red line), but also at the amount of debt in billions of kroner (grey bars). In the case of monetary terms, it can be seen that in times of declining debt-to-GDP ratios, the value of debt in kroner has not declined much. In 2021 and 2022, the increase in the ratio was dampened by the high inflation rate increasing nominal GDP (compare the increase in debt in billions of CZK and in %). Even so, it is clear that the increase in the debt ratio in Czechia in 2021 and 2022 was significant compared to the evolution of the average debt ratio of EU countries, where it tended to decrease (NRR, 2024).

11.3. The Consolidation Package and Its Contents

Act No. 349/2023 Coll. came into force in January 2024, implementing the so-called consolidation or austerity package (hereafter referred to as the CCA) (Ministerstvo Financí ČR [MF ČR], 2024). This should ensure a reduction of public budget deficits by approximately CZK 151 billion in the period 2024-2025 alone, thanks to a CZK 78 billion reduction in expenditure and a CZK 72 billion increase in taxes and other public budget revenues, and this should halt the growth of the national or public debt.

The planned CCCT addresses savings in a relatively complex way, namely by limiting the expenditure financed from public budgets, and by increasing the revenue side of public budgets, both by changing the taxes levied within the tax mix applied in Czechia, but also by changing (abolishing) some exemptions that were applied to the levied taxes until the end of 2023. However, some measures can be considered as introducing more rationality in proving tax facts.

On the expenditure side, the following measures:

- reduction of national subsidies,
- 5% reduction in operating expenditure in each department,
- the abolition of certain territorial offices of the Financial Administration,
- reduction of public sector salary levels,
- a slowdown in the rate of growth of salaries of constitutional officials,
- reduction in the Cultural and Social Needs Fund (FCNF),
- compensation for temporary sick leave and its reimbursement from the salary cap,
- changing the conditions for unemployment benefits,
- reduction of state support for building savings for existing and new contracts,
- adjusting national funding for EU projects,
- abolition of stamps,
- increase in the price of the vignette and its regular valorisation,
- integration of debt recovery,
- reduction of the tax credit for one's spouse,
- abolition of school fees,
- abolition of the student tax credit.

On the revenue side, these are:

- increase in corporate income tax,
- bookkeeping in the functional currency,
- taxation of corporate income on exchange rate transactions,
- increase in the sickness insurance rate for employees,
- increasing the real estate tax and leaving 100% of the tax revenue to the municipalities,

- adjustment of the real estate tax on agricultural land,
- limitations on corporate income tax exemptions,
- limiting the exemption of non-cash benefits to employees,
- abolition of the exemption for over-the-limit meal vouchers,
- reduction of the exemption limit for raffle and gambling income,
- abolition of the exemption for staff apartments,
- elimination of the deduction for union dues,
- abolition of tax deductibility of silent wine as a gift of up to CZK 500 for representation,
- abolition of the deduction of payments for examinations verifying the results of further education,
- repeal the exemption for mining wage settlements and severance payments to miners,
- consolidation of selective exemptions into a general non-purpose limit of up to CZK 50 000 per year,
- repeal of the aviation fuel exemption,
- determination of refunds for so-called green diesel according to standards,
- adjustment of the levy burden on self-employed persons,
- abolishing exemptions from energy taxes,
- increasing the tax on tobacco products and heated tobacco and introducing a tax on alternative products,
- increase in gambling tax and change in the budget allocation of gambling tax,
- valorisation of the minimum tax on gaming machines,
- shifting the 23% personal income tax threshold,
- capping the levy relief for work performance agreements,
- simplifying the registration of work performance agreements,
- increase in the tax on alcohol,
- increase in mineral extraction fees,
- VAT rate reductions and tax cuts,
- restrictions on exemptions for the sale of securities and shares in companies.

11.4. Consolidation Package and a Company

Clearly, the CPR is very complex and amends several dozen generally binding legal regulations. Not all the measures that have been adopted have an impact on business entities, or the enterprise(s) as the basic representatives of legal entities. From the overview of the measures taken to consolidate public budgets, at least two areas can be identified that have or could have an impact on the financial flows in the enterprise.

These can be divided into the main factors affecting the enterprise and additional or sub-factors.

Main Factors Affecting a Company

The following two can certainly be considered as possible main factors:

- corporate income tax is now set at 21% instead of 19%,
- property tax – an average increase of 80% (see below).

At first glance, a two percentage point increase in corporate income tax is not a significant increase. For example, a company with a pre-tax profit of CZK 10 million will not have to pay more than CZK 10 million. At CZK 1.9 million in tax before the increase, now it will pay CZK 200 thousand more. The question will be whether this increase in income tax will be reflected in the final price for the customer. It is logical to consider that a business will not be willing to bear the increased tax costs from its own resources. Finally, the practice of including draught beer from the second reduced tax rate of 10 to 21% had a very clear impact on the final price. However, it is a fact that this indirect tax is inherently price-sensitive and is always paid by the consumer as a taxpayer; the business is only the taxpayer. What it collects, it pays into the state budget. However, the reasoning behind reflecting the increase in income tax in the price so that the business 'still has the same' is relatively logical.

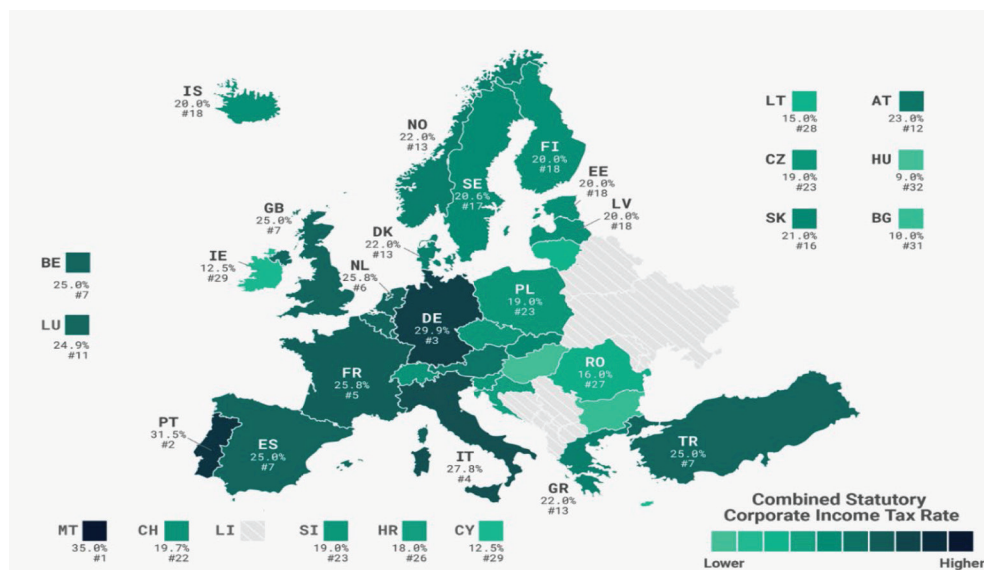


Fig. 11.3. Corporate tax rates in selected European countries

Source: (Tax Foundation, n.d.).

Looking at the corporate income tax rates in selected European countries, one can see that even after the increase of this tax, Czechia remains among the countries with a lower tax burden in this respect (Fig. 11.3).

The adjustment of property taxes is only a logical consequence of the increase in these direct taxes, which are among the lowest in Europe. In Czechia, the ownership of immovable property prevails over the rental of immovable property. Nevertheless, real estate tax revenue accounts for only 0.5% of total tax revenue (including social security and health insurance) in Czechia, before the January 2024 change. Only Austria, Luxembourg and Malta have a lower share; the EU average is 3% (Hypoindex, 2023). The tax burden in terms of property tax was very low in Czechia, 24th among EU countries in the share of property tax revenue in total tax revenue. Therefore, this tax is now being increased.

The changes to the property tax reflected in the consolidation package were primarily aimed at:

- tax increase,
- introduction of an inflation coefficient,
- comprehensive adjustment of the coefficients by which municipalities can influence the revenue from this tax,
- clarification of some problematic issues arising in the administration of the real estate tax, adjustment or removal of unsystematic exemptions,
- an effort to link to the cadastre of real estate and the terminology according to the cadastral law,
- reduction of excessive tax burden on difficult to use land of the type in other areas.

Property tax rates were to increase by an average of 80% from 1 January 2024. For buildings, the tax rate increased by CZK 0.75 for each floor above ground, now it is CZK 1.40. The tax on non-residential space used for business purposes was also increased from CZK 2 to CZK 3.50 per 1 m². The new tax increase will also apply to those taxpayers who provide accommodation in a residential building or in flats – these taxpayers will have to file a tax return and declare this fact to the tax administrator. Municipalities could increase the coefficient by a generally binding decree. The current coefficients for 2024 can be found on the website of the Tax Administration (2024).

Even after this tax increase, Czechia will still be one of the countries with the lowest tax burden in this tax. This will certainly have an impact on business, as many companies are based in their own real estate. If businesses were renting, it can be expected that the increase in this tax will be reflected by the tenants in the prescribed rent. Again, it can be expected that this cost will be reflected in the final price of the product or service to the end customer, which is often the consumer.

Additional Sub-factors

The sub-factors listed below can be considered as not having a significant direct impact on the financial flows of the company, but still need to be addressed by the company. They will, however, have an impact on the employees and indirectly on the enterprise. These include the following:

- limiting the exemption of non-cash benefits to employees,
- the amount of benefits provided to the employee up to the limit of half of the average wage will be a tax-deductible expense (i.e. half of the average wage = CZK 21,983),
- the amount of benefits provided to the employee above the limit of half of the average wage will be a tax deductible expense,
- abolition of the exemption for excess meal vouchers (the main impact will be on employees),
- limitations on corporate income tax exemptions and other measures listed above, depending on what each company uses according to its production programme.

11.5. The Importance of Universities for Society and the Economy

Universities are of undeniable importance to society and the economy. They provide high-quality education that prepares students for demanding jobs in a variety of sectors. The research projects and innovations that take place in universities open up new opportunities for technological development and economic growth. Higher education fosters the development of critical thinking and analytical skills, which are key to innovation and competitiveness in the labour market. Graduates often bring new ideas and perspectives to the workplace, stimulating entrepreneurial activity. An educated and continuously learning workforce is also key to adapting to changes in technology and global economic trends. Universities also play an important role in maintaining cultural identity and fostering the development of social awareness and civic engagement. Investing in education thus pays off in the long run as a means to promote sustainable economic and social development.

Universities play a key role in addressing economic and societal challenges. Their research activities contribute to the formulation of effective policies and measures for economic recovery. Graduates acquire the knowledge and skills needed to compete in the labour market and have the ability to analyse and solve complex problems. Collaboration between universities and government and other institutions contributes to effective governance. Higher education thus makes a key contribution to the sustainable development of the economy and society.

Case study of the University of Finance and Administration

The College has a number of experts who have been involved, directly or indirectly, in the process of drafting the Public Finance Consolidation Act. Students have been introduced to the progressive development, but especially to the rationale and meaning of the Act in several courses that are relevant and quite fundamental to the practice. The information was mainly related to the following subjects: Tax System in Czechia, Tax Law, Tax Theory and Policy, Public Finance, Public Budgets, Theory of Public Finance, Financial and Budgetary Law, Accounting, Corporate Finance, Enterprise and Taxes, Financial Analysis of Enterprise (Vysoká škola finanční a správní [VŠFS], n.d.). The process of teaching and education was designed according to their consistency, from courses on tax issues to courses on public finance issues to courses involving direct impact on practice.

Participation in the process and implementation in education was through the involvement of VŠFS teachers (commenting on the legislative process, membership in chambers of auditors, accountants, etc.), internal grant agency projects, student involvement in projects, seminars, and workshops. The educational process is designed so that students gain a comprehensive understanding of how these legislative measures impact the economy and society, and how they can contribute their knowledge and skills to their effective application in practice.

The importance of educating students in topical areas, here the issue of the consolidation package, is shown in Figs. 11.4 and 11.5. This is a survey taken from the media, where Czech citizens were asked whether they understood the importance of the consolidation package and to what extent they agreed with some of the proposed measures.

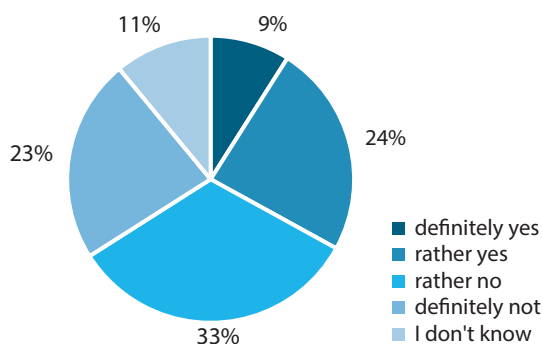


Fig. 11.4. Question: Do you understand the government's key financial measures (the so-called consolidation package) and their concrete impact on the lives of people in Czechia?

Source: (iRozhlas, 2023).

According to the survey, not only the elderly, but also the university-educated, the employed and the unemployed do not understand the consolidation package and its impact on life in Czechia. In all these categories, the level of misunderstanding is around 60%. Overall, only a third of the surveyed understands the government's financial measures, and 33% said they understood the consolidation package. A large percentage of those who do not know what to think about the consolidation package can also be seen in the survey. Among the groups that understood the government's actions, most were young people under 29, but even among those only 33% of the respondents understand the meaning of the consolidation package. More than half answered that they do not believe in the positive impact on the economy. Interestingly, more than half of students and almost half of people with primary education believe in a positive impact.

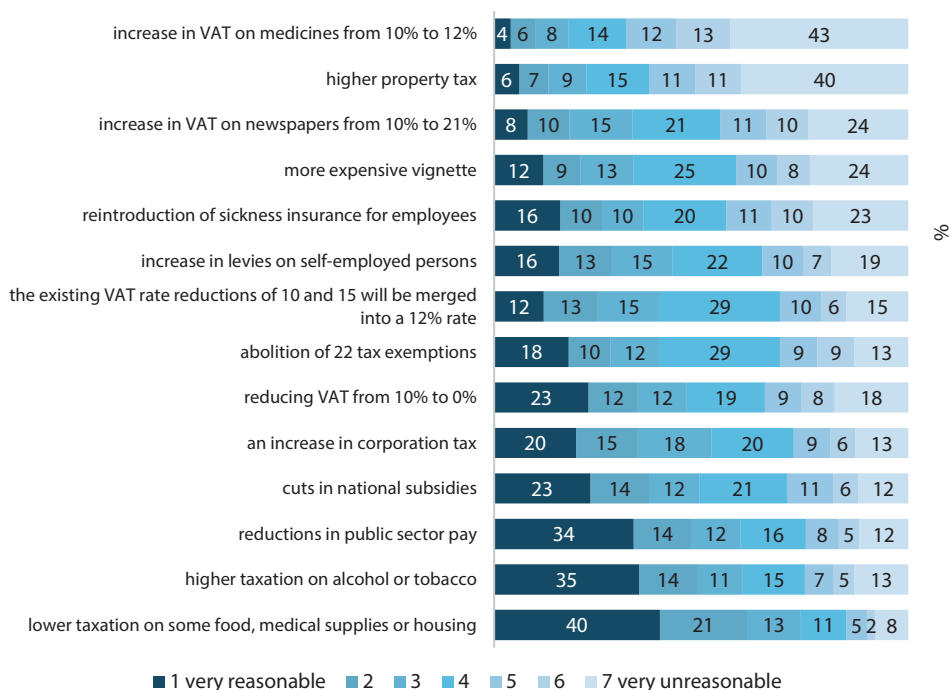


Fig. 11.5. Rating of specific government consolidation package proposals

Source: (Aktuálně.cz, 2023).

The survey produced findings that were not surprising. When it came to measures that will be spent by households, the respondents expressed a degree of disagreement. If it was a measure where there will be savings from the state,

it was viewed positively by the public. Czechs understand the need to save, but most disagree with tax measures.



11.6. Conclusions

The tax mix in Czechia has undergone important changes with the adoption of the consolidation package, which has been in force since January 2024. This package has made a number of changes in both the revenue and expenditure areas of the public budgets, with the aim of reducing the deficits of these budgets, starting to reduce the growth dynamics of the public deficit and the national debt, and of consolidating the public budgets in order to sustainably finance the needs of the state in the medium and long term.

The selected changes will have a short-term impact on the business sector, but it can be assumed that the business sector should adapt to the new conditions, unfortunately to the detriment of the end users of products and services, especially consumers. Nevertheless, it must be also assumed that in the medium and long term the consolidation package will provide a sustainable basis for the gradual reduction of government or national debt and thus for the overall consolidation of public finances, which are mainly represented by public budgets.

Universities are an integral part of sustainable economic and social development through the provision of quality education and the promotion of innovation. Their research activities and the training of skilled graduates contribute to the formulation of policies for economic recovery. Collaboration between universities, government and other stakeholders, such as professional associations, strengthens the capacity to address economic and social challenges, thereby promoting the sustainable development of society. An educated workforce is a key factor in adapting to changes in technology and global economic trends, which has a positive impact on a country's competitiveness. Investments in human capital and education thus represent a strategic means for the future prosperity and stability of Czechia.

The consolidation package will have an impact in all areas, affecting the public sphere, the corporate sector and households. The impact will be both international and regional. For this reason, educating the public is also essential.

Acknowledgements. The result was created in relation to the student project 'Small Entrepreneurship and Traditional Production as Generators of Value for Sustainable Regional Development,' No. 7427/2023/02, using objective-oriented support for specific university research of the University of Finance and Administration.

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CHAPTER 12

Enhancing Cross-Border Cooperation (CBC) Between Poland and Czechia Through Euroregions: Opportunities and Challenges

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Quote as: Łukaniszyn-Domaszewska, K. & Śmietański, R. (2024). Enhancing Cross-Border Cooperation (CBC) Between Poland and Czechia Through Euroregions: Opportunities and Challenges. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Visegrád Group* (pp. 195-206). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.12](https://doi.org/10.15611/2024.92.5.12)

Abstract: Cross-border cooperation is a critical aspect of regional development and integration within the European Union. In the case of Poland and Czechia, this cooperation is facilitated through Euroregions, transnational partnerships formed by border regions of different countries. The border between Czechia and Poland spans almost 800 km. Since 1991, six Euroregions and two European Groupings of Territorial Cooperation (EGTC) have been established, facilitating cross-border cooperation (CBC) along the entire length of the border. This institutionalisation of cross-border cooperation probably contributed to achieving and sustaining a high level of mutual Czech-Polish relations. This paper explores the opportunities and challenges of cross-border cooperation between Poland and Czechia within the framework of Euroregions, focusing on key initiatives, best practices, and areas for improvement.

Keywords: cross-border cooperation (CBC), Euroregions, Polish-Czech relations, sustainable development



12.1. Introduction

The presence of diverse administrative systems poses obstacles to the equitable development of various European regions within the EU (Böhm, 2023). This challenge is evident along the borders between Czechia and Poland. Cross-Border Cooperation (CBC) emerges as a crucial tool for mitigating these obstacles (Böhm,

2014; Durand, 2015; Jańczak, 2011; Klatt & Herrmann, 2011; Kurowska-Pysz et al., 2018; Perkmann, 2003).

The key question revolves around whether CBC is perceived as a sustainable, inherent, and beneficial endeavour beyond its direct stakeholders and those involved in implementing cross-border cooperation initiatives (Böhm, 2021; Böhm & Opiola, 2019; Opiola & Böhm, 2022).

The Czech-Polish border, much like others in Central and Eastern Europe, saw significant shifts during the 20th century. The formation of Poland and the former Czechoslovakia stemmed from World War I, and their borders were shaped through international arbitration in 1920, dividing contested regions such as Těšín/Cieszyn Silesia, which led to lukewarm relations between the two countries during the interwar period. Despite both being part of the eastern bloc, cross-border interaction was limited. After World War II, the original 1920 border was reinstated, as German-Polish and Polish-Soviet borders were moved westward. Although both countries belonged to the Soviet bloc, border permeability was low, and cross-border cooperation was minimal. Following the collapse of communism in 1989, Poland and Czechoslovakia aimed to strengthen their relations by becoming members of Western organizations like the Visegrád Group in 1991 and creating collaborative frameworks across borders, such as Euroregions, during the 1990s.

Cross-border cooperation brings many benefits, however, there are certain barriers. What may be noteworthy or unexpected, yet, is the relatively limited level of cross-border labour mobility between the workforces of both countries (Kurowska-Pysz, 2015, 2016a).

Research indicates that stakeholders in cross-border cooperation do not prioritise collaboration in the labour market due to a perceived lack of genuine cross-border demand (Bertram et al., 2023). There are some exceptions, particularly driven by the automotive and mining industries in Czechia, which attract Polish workers. The primary reason for the relatively low level of Czech-Polish cross-border cooperation in the labour market is the absence of a major economic driver on either side of the border, rather than any hostile or re-bordering sentiments in the mutual relations between entities from both countries (Böhm & Opiola, 2019; Gamon & Naranjo Gomez, 2019).

CBC has emerged as a vital mechanism for fostering economic growth, promoting cultural exchange, and addressing common challenges in border regions. Euroregions play a crucial role in facilitating this cooperation between Poland and Czechia, two neighbouring countries with a shared history and close geographical proximity (Kurowska-Pysz, 2015, 2016a).

This chapter aimed to analyse the dynamics of cross-border cooperation within Euroregions, highlighting both the opportunities it presents and the challenges it faces.

12.2. Czech-Polish Cross-Border Cooperation

Cross-border cooperation plays a significant and crucial role in the integration process of European territories (Castanho et al., 2016, 2017a, 2018; Guo, 2018). CBC involves establishing a network of connections that foster socio-economic cooperation (Kurowska-Pysz, 2015, 2016a) and helps to overcome cultural and social barriers in local communities situated on borderlands (Dacko-Pikiewicz, 2019; Kurowska-Pysz, 2016b; Wróblewski et al., 2018). Numerous experts on borders have consistently emphasised the significant and pertinent role that CBC plays in the process of integrating European territories (Castanho et al., 2016, 2017a, 2017b; Kurowska-Pysz & Szczepańska-Woszczyzna, 2017; Scott, 2016; Sergeyeva et al., 2022; Vulevic et al., 2020).

In fact, CBC is a vital factor in overcoming obstacles associated with the existence of state borders. The European Union's policy, advocating for a borderless Europe and supporting cross-border cooperation for 25 years, has led to the emergence of integrated cross-border regions in certain parts of Europe (Durand et al., 2020). Cross-border cooperation entails collaboration extending beyond borders, between neighbouring states/regions, aimed at eliminating barriers (social, economic, infrastructural, and cultural) associated with state borders or alleviating the effects of their existence. It is a form of international cooperation that strengthens mutual relations, ensures stability, and promotes cooperative and sustainable socio-economic development (Ministerstwo Spraw Wewnętrznych i Administracji [MSWiA], 2020). According to the European Framework Convention on Cross-border Cooperation between Communities and Territorial Authorities (Council of Europe, 1980), cross-border cooperation is understood as jointly undertaken actions aimed at strengthening or further developing neighbourly contacts between communities and territorial authorities, as well as reaching agreements and adopting arrangements to achieve these intentions. The benefits of collaboration include driving innovation similarly to international cooperation, enhancing the significance of parent companies in foreign markets, facilitating the development of their own research and development (R&D) infrastructure, and aiding in skill acquisition. Cross-border cooperation constitutes one facet of European Territorial Cooperation, which forms part of a cohesion policy with the aim of tackling cross-border challenges and jointly unlocking the potential of diverse regions. Funding for cooperative endeavours is provided through the European Regional Development Fund, encompassing three primary components: cross-border cooperation, transnational cooperation, and interregional cooperation (European Territorial Cooperation).

European Territorial Cooperation has been integral to cohesion policy since 1990. In the programming period of 2014-2020, comprehensive regulations governing actions in European Territorial Cooperation, supported by the European Regional

Development Fund (ERDF), were adopted for the first time in the history of European cohesion policy. This approach is being continued for the period spanning 2021-2027.

12.3. Euroregions – Barriers and Opportunities

An integral component of CBC is Euroregionalisation, which involves local communities coming together to pursue common interests across borders and recognising the importance of addressing issues at institutional level (Kurowska-Pysz, 2016a, 2016b).

Territorial partnerships, such as cooperation within Euroregions, are alliances that not only alter the operations of the participating organizations, but also influence their surroundings and the region where they function. Additionally, in this particular form of collaboration, the objectives of the participating organizations should align with the broader goals of cross-border cooperation (CBC), which significantly impacts the establishment of socio-economic cohesion within the Euroregion, in line with the region's interests. During this process, various obstacles frequently arise from diverse sources, which contradict the specified objectives of CBC (Medeiros et al., 2022, 2023). Key stakeholders in CBC play a pivotal role in overcoming at least some of these hurdles (Kurowska-Pysz et al., 2018).

Initially, Euroregions emerged as collaborations between municipalities representing either the parts of Western or Eastern Europe, such as the trilateral Czech-Polish-German Euroregion Nisa-Nysa-Neisse established in 1991. Subsequently, they began to form between countries of the former Eastern bloc itself, including along the Czech-Polish border, with Euroregion Glacensis in 1996, Praděd in 1997, Silesia and Těšín/Cieszyn Silesia in 1998, and Beskydy in 2000. Presently, there are six Euroregions spanning the entire Czech-Polish border. While some Euroregions involve partners beyond municipalities and regions – typically universities or chambers of commerce – this is not the case for all Euroregions, and these additional partners often have limited influence. Consequently, the agenda and scope of cooperation within individual Euroregions are shaped by the interests of the municipalities who serve as their primary founders (Böhm & Opiola, 2019).

The Euroregion Těšín/Cieszyn Silesia encounters the least language barrier, primarily because of the presence of a Polish minority on the Czech side and the usage of a mutually understood dialect on both sides of the border. Comparatively lower language barriers are noticeable in the other three 'Eastern' Euroregions. As for the other two, Glacensis and Nisa-Nysa-Neisse, these regions experienced almost complete population shifts; thus, one might anticipate a more significant language barrier there (Böhm & Opiola, 2019).

The Czech-Polish Euroregions have actively participated in EU Interreg programmes or their predecessors since their inception in the late 1990s. They are recognised as proficient beneficiaries of these projects, often yielding significant impacts. However, upon examining the statutes of all six Euroregions, it becomes evident that their scope of cooperation activities is highly comparable. Regarding cooperation in the labour market domain, it was only identified as a priority for two Euroregions-Silesia and Těšín /Cieszyn Silesia (Böhm & Opiola, 2019). Table 12.1 presents basic statistical data on Czech-Polish Euroregions.

Table 12.1. Basic statistical data on Czech-Polish Euroregions

Euroregion	Founded	No. of inhabitants in thousands	Surface in sq. km	No. of members
Nisa-Nysa-Neisse	1991	1 578	12 591	295
Glacensis	1996	770	5 249	150
Praděd/Pradziad	1997	761	7 656	112
Silesia	1998	771	2 732	76
Těšín/Cieszyn Silesia	1998	672	1 730	29
Beskydy	2000	1 300	6 343	181

Source: own elaboration based on (Böhm & Opiola, 2019).

Generally, the Euroregion's objective is to carry out cross-border cooperation, viewed as collective actions aimed at strengthening and nurturing neighbourly relations between territorial communities or authorities of two or more contracting parties, as well as concluding the agreements and arrangements necessary for the adoption and implementation of such plans. Established and endorsed by the European Union, the Euroregion may receive financial support for its activities. The effectiveness of cross-border cooperation in Euroregions depends on various favourable and unfavourable factors (Noferini et al., 2020; Scott, 2012; Więckowski & Timothy, 2021). The extent and dynamics of cross-border cooperation are predominantly influenced by cultural, social, and economic barriers, which may affect partners to different extents (Bufon et al., 2014; Kramarz et al., 2020). Furthermore, it is influenced by the cooperation process or the cooperation area (Sousa, 2013). Moreover, their surroundings can also be a source of barriers (Evrard & Engl, 2018; Svensson, 2015).

It is clear that both obstacles from within and outside factors impact the progress of CBC in Euroregions; the negative factors affecting CBC in Euroregions can be divided into two groups (Wróblewski, 2016a, 2016b).

1. Internal barriers arise from specific and individual circumstances related to CBC processes in Euroregions and their partners. These circumstances include

communication methods among partners in Euroregions, resource availability and potential for CBC development, as well as understanding of CBC conditions and potential benefits.

2. External barriers, largely beyond the control of Euroregions and CBC partners, concern the cross-border environment, including legal regulations, administrative procedures, economic and social conditions, EU cohesion policy directions, and the availability of European funds for CBC development.

Assessing the feasibility of achieving CBC goals in Euroregions requires analysing cooperation barriers (Kurowska-Pysz et al., 2018). While Euroregions can focus on internal barriers, external ones are tougher to address in the short term. Hence, within a limited timeframe, external barriers persist as challenges. Internal barriers, notably lack of awareness about CBC, differing partner interests, and limited resources, shape CBC's effectiveness. Educating stakeholders about CBC benefits through Euroregions and local governments can mitigate these barriers.

However, external barriers, affecting economic and environmental tasks, stem from regulations beyond local levels. These challenges, like disparities in legal frameworks and funding, hinder strategic goal implementation. Overcoming external barriers is challenging at local level due to their regional or national scale origins (Kurowska-Pysz et al., 2018).

In fact, engagement in cooperation efforts at regional or national levels is hindered when CBC is not prioritised in development strategies, making public funding hard to secure. Consequently, only a few entities, primarily public institutions, participate, while NGOs and businesses face obstacles due to limited financial support and apprehensions about using public assistance (Kurowska-Pysz et al., 2018).

12.4. The Interreg V-A Czech Republic-Poland Cross-Border Cooperation Programme 2014-2020

This Programme, endorsed by the European Commission on June 23, 2015, stands as a pivotal initiative aimed at fostering integration among residents and bolstering the attractiveness and accessibility of the border region. Covering diverse thematic areas and benefiting from a substantial budget allocation, it signifies the joint commitment of Poland and Czechia to promote sustainable development and cooperation across their shared border.

In terms of support areas, the programme encompasses various subregions and counties in both Poland and Czechia, including Bielsko, Rybnik, Jelenia Góra, Wałbrzych, Nysa, Opole, as well as Strzelin and Pszczyna counties in Poland, and Liberec, Hradec Králové, Pardubice, Olomouc, and Moravian-Silesian regions in Czechia (Fig. 12.1).



Fig. 12.1. Support area of Poland and Czechia

Source: (Ministry of Development Funds and Regional Policy, 2022).

With a total budget of EUR 226.2 million from the European Regional Development Fund (ERDF), the programme allocates funds across four main thematic objectives. The largest portion of the budget, accounting for 60%, is dedicated to enhancing natural and cultural resources to support employment, aiming to enrich the range of tourist attractions and improve regional infrastructure such as road connections. Additionally, funds are directed towards cross-border risk management, education and skill development, and institutional and community cooperation (Ministry of Development Funds and Regional Policy, 2022).

Implemented through flagship, standard, and micro-projects, this programme focuses on various aspects, including the development of natural and cultural potential, education, and institutional cooperation. Notably, micro-projects play a crucial role in addressing specific needs and fostering grassroots cooperation.

The beneficiaries include a diverse range of stakeholders such as public authorities, educational institutions, NGOs, and religious associations. Through the implementation of numerous projects, the programme has achieved significant

outcomes, including the revitalisation of natural and cultural attractions, the construction and modernisation of cycling and hiking trails, and enhanced cross-border cooperation among various services.

Looking ahead, the programme continues to evolve, with ongoing preparations for a new Cross-border Cooperation Programme for 2021-2027. With a focus on addressing emerging challenges and building on past successes, this initiative remains instrumental in promoting collaboration and sustainable development in the Czech-Polish border region.

12.5. Examples of Projects Implemented in 2024 Under the Interreg Czech Republic-Poland Programme

The Czech-Polish Monitoring Committee of the Interreg Czech Republic-Poland programme gave its approval to projects focusing on tourism development and enhancing cross-border connections among residents and institutions; this decision was made during a meeting held on 13 March 2024.

Under the 'Tourism' category, funding has been designated for:

- seven standard projects, totalling EUR 13.5 million from the European Regional Development Fund (ERDF),
- one project from the Euroregion Těšín/Cieszyn Silesia, utilising a small project fund with a value close to EUR 1.5 million from the ERDF.

These initiatives aim to foster tourism growth in the Czech-Polish border region. Notably, initiatives include establishing a new cross-border hiking trail in partner municipalities such as Szklarska Poręba and Podgórzyn. Moreover, expansion plans for the 'European Route of Castles and Palaces Poland-Czech Republic' encompass additional areas within the border region (Královéhradecký Region, Olomouc Region, Opole Voivodeship). Furthermore, construction of a footbridge over the Olza River will facilitate direct connectivity between cycling paths spanning Karviná, Kočoběž, Český Těšín, Cieszyn, Pogwizdów, and Hažlach.

In the 'Residents and Institutions Cooperation' segment, funding has been allocated for:

- three standard projects, totalling EUR 1.5 million from the ERDF,
- one project from the Euroregion Těšín/Cieszyn Silesia, receiving EUR 400 thousand from the ERDF, with a focus on enhancing public administration functionality and fostering cross-border collaboration in this domain.

These standard projects aim to deepen cross-border relations among residents and institutions in the Czech-Polish border region. For instance, the Kłodzko Health Care Team and the Zdravotnická záchranná služba of the Pardubice Region will engage in knowledge exchange, sharing best practices in pre-hospital care, and medical rescue management as organizational entities.



12.6. Conclusions

One of the primary opportunities of cross-border cooperation between Poland and Czechia lies in the promotion of economic integration and development. Through joint initiatives and projects, Euroregions enable the pooling of resources and expertise, leading to the development of infrastructure, promotion of tourism, and enhancement of trade relations between the two countries. Furthermore, Euroregions provide a platform for cultural exchange and collaboration in areas such as education, healthcare, and environmental protection, fostering greater understanding and solidarity between border communities.

Despite the benefits it offers, cross-border cooperation between Poland and Czechia also faces several challenges, such as external and internal barriers (Kurowska-Pysz et al., 2018). One of the key challenges is the need for improved coordination and communication between stakeholders from both countries. Language barriers, administrative differences, and divergent priorities can hinder effective collaboration and project implementation within Euroregions. Additionally, securing funding for cross-border projects remains a challenge, as financial resources are often limited and competitive.

Overcoming external barriers poses significant problems. Nonetheless, studies conducted in the Euroregion of Těšín/Cieszyn Silesia suggest that the impact of internal cooperation barriers at local level, which primarily affect social cooperation objectives, can be mitigated (Kurowska-Pysz et al., 2018). Internal barriers mainly affect non-governmental organizations (NGOs) and businesses, albeit for different reasons. Among the stakeholders in cross-border cooperation, local governments are best positioned to implement social goals due to their mission alignment and preparedness. Typically, it is the local governments within Euroregions that have the most comprehensive understanding of cross-border cooperation. Hence, local governments, tasked with ensuring the welfare of local communities, should actively promote cross-border cooperation among NGOs and entrepreneurs by providing information on cooperation essentials, models, resources, and benefits. This can involve:

- expanding cross-border administrative cooperation across various sectors, including education, culture, and tourism;
- offering periodic financial assistance to NGOs for their contributions to European projects through CBC seed money funds;
- establishing cross-border thematic clusters in entrepreneurship, culture, art, and transportation (Karaś et al., 2023; Łukaniszyn-Domaszewska et al., 2023);
- facilitating partnership exchanges for NGOs and entrepreneurs interested in cross-border collaboration;

- advocating for best practices from cross-border cooperation among organizations unfamiliar with it.

In conclusion, cross-border cooperation between Poland and Czechia within the framework of Euroregions presents significant opportunities for regional development and integration. By leveraging their shared interests and resources, both countries can enhance economic ties, promote cultural exchange, and address common challenges more effectively. However, overcoming the challenges of coordination, communication, and funding will be crucial in realizing the full potential of cross-border cooperation between Poland and Czechia. Through continued commitment and collaboration, Euroregions can serve as catalysts for building a more prosperous and interconnected border region fostering sustainable development in this area.

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CHAPTER 13

Has the COVID-19 Pandemic Changed the Way Travel Agencies Clients' Make Decisions?

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Quote as: Jaremen, D. E., Michalska-Dudek, I., & Pellešová, P. (2024). Has the COVID-19 Pandemic Changed the Way Travel Agencies Clients' Make Decisions?. In B. Drelich-Skulska, M. Sobocińska, & A. Tomášková (Eds.), *The Importance of Universities for Society and Economy. The Experience of Researchers from the Vise-grád Group* (pp. 207-216). Publishing House of Wrocław University of Economics and Business.

DOI: [10.15611/2024.92.5.13](https://doi.org/10.15611/2024.92.5.13)

Abstract: The main goal of this chapter was to identify changes in the decision-making process regarding the purchase of package tours in three different periods: before, during and after the COVID-19 pandemic. Identifying these changes will allow both researchers and practitioners to better understand the evolution of consumer behaviour and adapt business strategies to changing market realities. To achieve the research goal, a literature search was conducted and field research was undertaken ($N_{2020} = 1.502$ and $N_{2022} = 1.508$). In the case of secondary sources, the method of content analysis was used in the adopted research area. Descriptive statistics methods were used to analyse data from primary sources collected using the indirect survey technique (CAWI).

Keywords: customer behaviour, package holidays, travel agency, COVID-19 pandemic



13.1. Introduction

In recent years, the most important influence on the functioning of the tourism market was: ICT and the COVID-19 pandemic. The advent of the Internet era revolutionised tourism by developing online distribution channels and providing wide access to information for potential tourists. The COVID-19 pandemic has hit the global tourism

industry in an unprecedented way, causing a significant decline in international tourist traffic. Health risk perception is an important aspect of traveling (Chien et al., 2017; Rittichainuwat & Chakraborty, 2009; Wong & Yeh, 2009), and epidemics have a significantly negative impact on tourists' mental well-being (Abbas et al., 2021; Wang et al., 2019), which in turn influences their travel decisions. This is not only about giving up meeting strongly felt tourist needs, but about changing behaviour in the process of conducting a tourist trip and in the process of making purchase decisions preceding it.

In recent decades, tourism has also undergone significant transformations caused by the dynamic development of ICT technologies (Amaro & Duarte, 2015). As a result, online shopping has become a common practice (Lei & Law, 2019), and nearly 70% of holiday packages are now purchased through online distribution channels (Statista, 2021).

The Internet not only facilitates the finalisation of online purchase and sale transactions as a distribution channel, but also allows the operations to be safely carried out remotely. In the phase of planning a trip and making purchases, the net eliminates the need for direct contact between tourists and employees of travel companies, which was crucial during the pandemic.

13.2. Purchasing Strategies Used by Buyers of Package Holidays

Package holidays, called tourist packages, are complex products that require the deeper involvement of buyers in the decision-making process than in the case of simple products. According to the typology of purchasing decisions (Garbarski et al., 1992, p. 104), purchasing a tourist package is a non-routine/high-consideration decision. In the process of purchasing tourist packages, there is an intense demand for various information, which places packages among the so-called information-intensive goods (Benckendorff et al., 2014; Hojeghan & Esfangareh, 2011). The described features draw attention to two stages of the purchase process, namely searching for information and choosing the place where the buyer finalises the purchase.

The multi-resource approach to collecting information by tourists (Flavián et al., 2016) has become fully possible thanks to the Internet which itself is a collection of many sources of information, both classic (i.e. opinions, advertising, news, books) and new (such as search engines, social media, blogs) (Dudek et al., 2020).

The phenomenon of the so-called switching (Reddy & Nagarjuna, 2017), i.e. changes in information sources and channels in the process of making decisions applies to purchasing package holidays. A potential buyer changes information

channels (e.g. uses written information, films, oral communications) and collects data from various sources (e.g. visits Internet portals, browses catalogues, asks questions to the seller in a travel agency), mixing online and stationary sources, to ensure choosing the optimal option.

Increasingly, tourists' purchasing behaviour can be described according to the following four patterns:

- Research Offline, Purchase Offline (buyers look for information in stationary sources and also purchase tourist services there),
- Research Online, Purchase Online (buyers look for information in Internet resources and also purchase tourist services there),
- Research Online, Purchase Offline (buyers look for information in online resources and buy in a stationary mode),
- Research Offline, Purchase Online (buyers look for information in stationary sources and make a purchase online).

In the subject literature, these models of behaviour are often called purchasing strategies. They concern buyers combining different sources/suppliers of information and information channels/methods of information transfer (Fodness & Murray, 1997) and switching between them in the purchase decision process (Bieger & Laesser, 2004). The condition for the buyer to use purchasing strategies is to achieve the goal which is to purchase a tourist package that best meets their expectations.

Recognising these strategies is in the interest of tourism service providers, and provides a way to develop more effective marketing strategies, providing them with knowledge on how and where to reach tourists with appropriate information.

Despite the durability of purchasing strategies, they are also characterised by flexibility and are subject to transformation under the influence of various factors, due to which buyers modify their purchasing strategies towards the most optimal ones. Thanks to research on purchasing patterns, it becomes possible to meet the information addressed to tourists by the company with their expectations in terms of the source, channel and content of the message.

This study adopted the thesis that the COVID-19 pandemic, as a threat factor, not only affects tourists' purchasing intentions, but significantly modifies purchasing strategies and the decision-making process itself to purchase tourist packages.

13.3. Purchasing Strategies of Travel Agency Customers in the Period Before, During and After the Pandemic

For the purposes of achieving the research goal, surveys were conducted among purchasers of package holidays regarding the issue of their purchase decision-making process in three contractual periods: before (1), during (2), and after (3) the COVID-19

pandemic. Data for periods (1) and (2) were collected in November 2020, and data for period (3) were collected in June and August 2022. In both research processes, the basic research technique was a CAWI survey, and the tool included a questionnaire. The research was a partial study on research samples of 1502 (November 2020) and 1508 (June-August 2022), selected non-probabilistically, i.e. using the online sampling method from a nationwide, representative panel, made available by the IMAS International research agency.

The research results clearly confirm that the situation related to the COVID-19 pandemic has influenced the implementation of tourist trips. This applied to both 2020 and 2022, although the distribution of responses was slightly different. In the first year of the pandemic, many more respondents considered this impact to be definite (46.3%), and a year and a half later, the 'definitely yes' category was indicated by 31.8% of respondents. A detailed summary of the research results is presented in Tab. 13.1.

Table 13.1. The impact of the COVID-19 pandemic on tourist travel

Has the situation related to the COVID-19 pandemic affected your tourist travel?	2020		2022	
	N = 1502		N = 1508	
	n	%	n	%
Definitely yes	695	46.3	480	31.8
Probably yes	379	25.2	562	37.3
Neither yes nor no	230	15.3	256	17.0
Probably no	79	5.2	131	8.7
Definitely no	110	7.9	79	5.2

Source: own study based on survey results.

Among the changes made in the method of carrying out tourist trips, the respondents most often indicated: limiting the number of tourist trips (39.6% of the responses), carrying out only domestic tourist trips (27.9%) and changing the destination of tourist trips (22.1%).

The study showed that, despite the existing threat, there was a specific group of people who purchased an organized tourist package during the pandemic (Tab. 13.2), but in the first year of the pandemic (2020) a much smaller number of respondents decided to take this type of holiday than a year and a half later. It is worth noting that people declaring the purchase of a holiday package, in both research periods, most often made more than one such journey. The respondents chose both domestic and foreign holidays. In 2020, domestic packages dominated and in 2022, it was the opposite.

The results below confirm that in the face of the threat of the COVID-19 pandemic, the behaviour of purchasers of package holidays has changed significantly. At that time, tourist packages were purchased less frequently, and buyers limited their trips to domestic trips.

Table 13.2. Shopping package holidays

Package type		2020		2022	
		N = 1502		N = 1508	
		n	%	n	%
Shopping package holidays, including:	yes	254	16.9	984	65.3
	no	1248	83.1	524	34.7
Foreign package holidays	yes	166	11.0	752	49.9
	no	1336	89.0	756	50.1
Domestic package holidays	yes	238	16.0	542	35.9
	no	1264	84.0	966	64.1

Source: own study based on survey results.

Additional insights are provided by the analysis of information sources and online/offline purchase channels. Using the respondents' answers about the behaviour of searching for information about package holidays and how to purchase them, it is possible to indicate various habits and to combine online and stationary sources and channels in one purchasing process, and then distinguish four segments of buyers, under the following names (Dudek et al., 2020):

- 'Involved' (Research Online, Purchase Offline behaviour),
- 'Misers' (Research Offline, Purchase Online behaviour),
- 'Traditionalists' (Research Offline, Purchase Offline behaviour),
- 'Networker' (Research Online, Purchase Online behaviour).

Figure 13.1 shows the structure of behaviour of 'Involved', 'Misers', 'Traditionalists' and 'Networkers', clients of travel agencies before, during and after the pandemic.

While before the pandemic, in the case of most respondents, the entire decision-making process took place online, in the first year of the pandemic this strategy was used only by 29.5% of package buyers, and in 2022 the share of this strategy decreased to 26.3%. During the COVID-19 pandemic, buyers of packaged tourist services most often started the purchasing process in a stationary store, in a travel agency, and finalised their purchases online. However, classic ROPO was a common behaviour. This means that buyers started by searching for information on the Internet and made the purchase in a traditional travel agency. In 2020, compared to 2019, the percentage of people who declared that they both looked for information and bought a package in a stationary store also increased slightly.

However, after the pandemic, compared to 2020, there was a further increase in the share of Research Online and Purchase Offline behaviour. The percentage of Research Offline, Purchase Offline behaviours also increased. At the same time, there was a continuation of declines in the share of Research Offline, Purchase Online behaviour.

Before the pandemic			
	Searching for information about package holidays		
Purchase of package holidays		Offline	Online
	Offline	'Traditionalists' 5.3%	'Involved' 16.6%
	Online	'Misers' 11.9%	'Networkers' 66.4%
During the pandemic			
	Searching for information about package holidays		
Purchase of package holidays		Offline	Online
	Offline	'Traditionalists' 7.9%	'Involved' 30.7%
	Online	'Misers' 31.9%	'Networkers' 29.5%
After the pandemic			
	Searching for information about package holidays		
Purchase of package holidays		Offline	Online
	Offline	'Traditionalists' 10.8%	'Involved' 36.1%
	Online	'Misers' 26.8%	'Networkers' 26.3%

Fig. 13.1. 'Involved', 'Misers', 'Traditionalists' and 'Networkers' before, during and after the pandemic

Source: own study based on survey results.

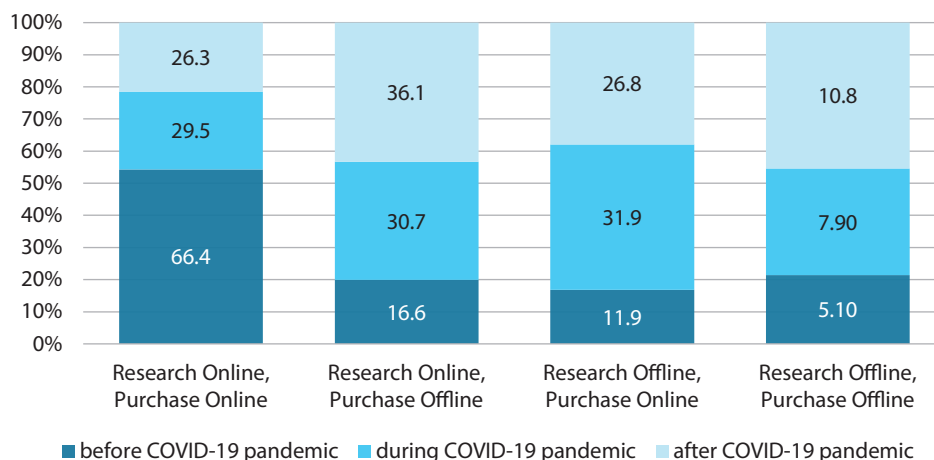


Fig. 13.2. Purchasing strategies of buyers of package holidays before, during and after the pandemic

Source: own study based on survey results.

Taken together, illustrating the evolution of purchasing behaviour before and after the pandemic, a significant change in the share structure of purchasing strategies of purchasers of package holidays can be noted. The share of 'Networkers' decreased by more than half, while the shares of other groups ('Involved', 'Misers' and 'Traditionalists') doubled (Fig. 13.2).

13.4. Conclusions

The conducted research confirmed that in the face of the threat of the COVID-19 pandemic, the behaviour of travel agency clients has changed significantly, in particular in terms of reducing the frequency of organized holiday packages and limiting them to domestic trips. The results obtained confirm the previously stated thesis about significant changes that occurred in the use of online and offline information and shopping channels by buyers in the process of making decisions about the purchase of package holidays due to the pandemic situation.

In the face of the COVID-19 threat, the importance of stationary travel agencies in this process has increased significantly, and the dominance of the 'search and buy online' strategy from before the pandemic has been broken, and buyers carried out the entire purchasing process online much less often than before the pandemic. The presented results do not differ from the observations made by other researchers. They also observed that the COVID-19 pandemic severely affected the decision-making

process in tourism (Larios-Gómez et al., 2021; Torres et al., 2021), tourists' purchasing behaviour changed radically (D. Truong & M. D. Truong, 2022), and consumption patterns significantly shifted (Deya-Tortella, 2022).

Many researchers claim that the effects of the pandemic on tourism will be long-term and even if the health crisis ceases, they will still affect tourists' travel and purchase intentions. During the pandemic, tourists became more demanding and cautious, and the socio-economic and health aspects of the crisis had a significant impact on their purchasing behaviour (Pappas, 2023). When making decisions, they reported a great need for reliable and up-to-date information and looked for more controlled sources (Cambra-Fierro et al., 2022), proven and 'tangible', and in their opinion, such sources were stationary travel agencies. Buyers of package holidays perceive tourist agency employees as guarantors of the truthfulness, reliability and timeliness of the information provided. In a situation of strong uncertainty and even fear of travelling (Bratić et al., 2021), personal contact between the customer and the seller becomes irreplaceable. The significant role of the advisory function played by salespeople in a travel agency was emphasised. The reasons for this situation can be seen in the need to use the services of travel agencies, which, in conditions of pandemic uncertainty, provided tourists with a guarantee of safety and certainty of the trip. In many cases, during the pandemic, organizing a holiday trip through a travel agency guaranteed the certainty of withdrawing from the contract and recovering the money invested in the holiday.

This study offers arguments for the need to operate stationary offices, despite the development of the e-commerce sector in tourism. It seems that tourists' strong belief in the high quality of information provided by employees of stationary travel agencies is an important condition for the existence of a relatively constant demand for their services.

It is important that travel agencies, when designing their development strategies, focus on redefining their role and adapting their activities to customer requirements, taking into account their purchasing behaviour, which is one of the main reasons for the development of omni-channel distribution of tourist products and non-linear tourism marketing observed in recent years. Entities operating on the tourism market must adopt diverse marketing strategies in response to the expectations of tourists, who often prefer different information channels compared to the distribution channels of the services offered.

To sum up, travel agencies must actively respond to changing market trends and customer behaviour by adapting their strategies to customer expectations and analysing data on multi-channel behaviour. Due to the demonstrated stabilisation of the share of online channels in purchasing behaviour, the analysis of multi-channel tourists' behaviour should become particularly important in future research.

The research conducted for the purposes of the presented chapter had its limitations. The study used data collected on a limited sample of Polish customers, and due to cultural differences, the distribution of socio-demographic and economic characteristics describing purchasing strategies may be different in the case of buyers of other nationalities.

Data for the purposes of the presented research were collected for four years, and the development of digital information sources and Internet access devices resulted in the dynamic nature of the studied phenomenon. Therefore, the directions for further research on buyer behaviour patterns should include, among others, determining whether the observed regularities will also persist in subsequent years and identifying factors influencing this phenomenon in the case of buyers of tourist packages.

Despite certain limitations, the empirical results of the presented research highlights several important issues, both theoretical and practical. The authors hope that the obtained results will help travel agencies to better understand customer behaviour and plan marketing instruments more effectively in the Internet age.

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