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OBSAH (CONTENT)

VEDECKÉ PRÍSPEVKY (SCIENTIFIC PAPERS)

Alexander Burggraf

The role of business process optimisation considering division of labour and efficiency gains versus opportunity costs **9**

Jana Filanová

Prekážky pri implementovaní manažmentu IT služieb v podnikoch na Slovensku / Barriers in the Implementation of IT Service Management in Slovak Enterprises **31**

Roman Lacko, Radúz Dula

Zmeny v produktivite cestovného ruchu Slovenskej republiky v kontexte rozvoja po pandémie COVID-19 / Changes in the productivity of tourism in the Slovak Republic in the context of development after the COVID-19 pandemic **41**

Filip Stovíček, Lucia Čerňanová

Digitization of the country as a prerequisite for the future – comparison of V4 countries **53**

Tobias Barthelt, Peter Markovič, Martin Novysedlák

Nachhaltiger Tourismus – wirtschaftliche Aspekte und Geschäftspraktiken in ausgewählten Ländern / Sustainable Tourism – Economic Aspects and Business Practices in Selected Countries **69**

RECENZIE (REVIEWS)

Ladislav Mura

Formovanie budúcich manažérov: Tréning sociálnych a manažérskych zručností / Formation of future managers: Training of social and managerial skills **91**

VEDECKÉ PRÍSPEVKY

SCIENTIFIC CONTRIBUTIONS

The role of business process optimisation considering division of labour and efficiency gains versus opportunity costs

Alexander Burggraf

Abstract

The continuous optimisation of business processes has become a key factor for the competitiveness and sustainable development of companies in a dynamic economic environment. This thesis examines the interplay of division of labour, efficiency gains and opportunity costs in the context of business process optimisation by means of a systematic literature review and from a microeconomic perspective. It analyses how these elements influence and determine the effectiveness of process improvements in companies. The literature review emphasises the need for companies to adapt quickly to changing market conditions driven by digital transformation, changing customer demands and increasing competitive pressure. By analysing the division of labour, it discusses how specialisation and the accumulation of experience can lead to significant efficiency gains. The concept of outsourcing is critically examined as a strategic decision to achieve efficiency and specialisation benefits, compared to the associated opportunity costs. Based on a microeconomic perspective, the interrelationships in this worker are analysed, a systematic literature review is used to integrate existing knowledge and to identify possible further research needs. The results highlight the interactions between efficiency, opportunity costs and division of labour in order to make informed decisions for business process optimisation. A sensible and well thought-out allocation of resources and a focus on the company's core competences are becoming increasingly important. However, comprehensive documentation of business processes is essential in order to realise efficiency gains. The analysis is carried out from various perspectives, taking into account the aspect of outsourcing business processes. A need for further research was identified in particular in the consideration of opportunity costs in connection with business process optimisation.

JEL classification: D 20, L 22, M 10

Keywords: Business Process Optimization, Division of labor, Efficiency

1 Introduction

There is a close relationship between business administration and economics (Cf. Bardmann 2019: 88). As part of the real and social sciences, business administration and economics can be located in the identical area of the scientific system (Cf. Bardmann 2019: 86-87). Economic theory, economic policy theory and business ethics are research areas of economics (Cf. Bardmann 2019: 89). Business administration, on the other hand, deals with the microeconomic perspective, which includes the research areas of business theory, business policy theory and business ethics (Cf. Bardmann 2019: 89). The two sciences are particularly related in the sub-discipline of microeconomics in economics. The subject of microeconomics, as the lowest level of aggregation in economics, is individual markets and individual economic units, which form the basic elements of an economy (Cf. Piekenbrock & Hennig 2013:16). These do not necessarily have to be companies. This also includes private households and the state (Cf. Bardmann 2019: 90-91). However, microeconomics also looks at business theory in the same way as business administration, which is why there are major overlaps here (Cf. Bardmann 2019: 91). Business economics describes, observes and explains the economic events in the individual company and the economic relationships of the individual company with its

environment (Cf. Bardmann 2019: 106). The close connection and relationship between the two scientific disciplines means that a closer examination of individual aspects of microeconomics and business administration appears to be expedient in order to utilise synergies.

The continuous optimisation of business processes has become a key factor for the competitiveness and sustainable development of companies in a dynamic economic environment. Due to the rapidly and continuously changing market conditions, the fact that we live in an environment with increasing complexity, uncertainty and volatility, it is increasingly a challenge for many companies to remain competitive. A key success factor here is the effective and efficient design of business processes and their continuous optimisation (Cf. Schmelzer & Sesselmann 2020: 505-506). Processes can be characterised as follows: "A process supports a company-related goal that is aligned with the company's or organisation's strategy, consists of several individual steps, takes place regularly, is often carried out by several people, departments, areas or companies in a division of labour, usually requires support by one or even several software systems and possibly other resources (e.g. telephone, copier, transport vehicle, machines, facilities), processes information (input) and leads to a desired result of the company (output)." (Gadatsch 2023: 7).

Advancing digitalisation, changing customer requirements and growing competitive pressure are forcing companies to rethink established and current processes (Cf. Kreutzer 2021: 37-43). Due to the rapid pace of change, companies are constantly having to make very quick decisions and adjustments within the organisation. In general, *Bleicher's* time gap shows that the interval and frequency of changes has increased significantly, while the time that companies have to react to the changes has decreased considerably (Cf. Bleicher 2011: 59). Based on the above, aligning business processes with the customer has become crucial to success. Thinking further, this culminates in a consistent end-to-end alignment of company processes (Cf. Bergsmann 2012: 18-19).

Process optimisation goes hand in hand with process efficiency, as companies are always looking for the optimal flow of processes (Cf. Schmelzer & Sesselmann 2020: 9). When talking about process efficiency, it is also important to consider the division of labour. By building up experience and knowledge and thus specialising, work can be carried out faster and with better quality, resulting in considerable efficiency gains (Cf. Zuckarelli 2023: 26). The more technological and advanced an economy is, the more it relies on the division of labour (Mankiw 2021: 641). Based on these considerations, the question arises as to what influence and impact modern technologies such as artificial intelligence will have on the division of labour. Rationally speaking, only those technologies and processes that increase productivity, efficiency and effectiveness in the long term will prevail (Sächsische Landeszentrale für Politische Bildung n.d.). Outsourcing is inextricably linked to these considerations of the division of labour and efficiency of processes. The aim of outsourcing business processes or entire departments is also to increase process efficiency and, in the best case, to take advantage of the specialisation of service providers. The decision as to whether to outsource processes is a classic business management consideration and a question of make or buy (Grimm & Haag 2023). Finally, outsourcing is linked to the idea of opportunity costs. Opportunity costs can be described as the lost benefit of choosing one alternative over another (Kolmar 2022: 5). The aim must be to achieve a balance between efficiency and opportunity costs, especially against the background of investments in research and development and thus ultimately for innovations. (Suter 2019: 161).

In summary, this scientific study focuses on the aspects of division of labour, efficiency gains and opportunity costs as decisive determinants for successful business process optimisation. In an era in which companies are confronted with increasing complexity,

technological change and global connectivity, questions regarding the effective utilisation of resources, the design of efficient work processes and the identification of opportunity costs in decision-making are of central importance. In this context, the topic of outsourcing is certainly also of major importance. In addition, outsourcing is gaining in importance as an option for optimisation, possible increases in efficiency and from the perspective of the division of labour. This requires the definition of criteria as to when outsourcing is expedient, for which type of process it is primarily suitable and how this relates to opportunity costs.

The above forms the foundation of this work. The aim of this work is concretised and formulated below. The focus and objective of this research work is to determine the role and significance of the optimisation of business processes, taking into account the division of labour and efficiency gains in comparison to opportunity costs. This is subdivided into the consideration of the two determinants division of labour and efficiency in relation to business process optimisation. This research question is subdivided into sub-aspects in order to ensure greater transparency and structure.

- What role does the division of labour play in business process optimisation? And how are efficiency gains in connection with business process optimisation considered in research?
- Another aspect is the illumination of the relationship between business process optimisation and opportunity costs. Is it possible to find indications in the literature as to how far business process optimisation makes sense when opportunity costs are taken into account?
- Which interactions can be found in the literature between the division of labour, efficiency and opportunity costs?
- Can information be found in the literature which, in addition to the connection between business process optimisation and opportunity costs, also includes the possibility of outsourcing in the analysis?
- What effects does outsourcing have on the division of labour and efficiency and what interactions exist between these determinants?

In general, a microeconomic perspective is adopted, which analyses the interactions of the aforementioned determinants. This is done by means of an in-depth systematic literature analysis and thus existing microeconomic findings are to be integrated into the context of business process optimisation, controversial viewpoints identified and possible research gaps pointed out.

In order to answer the aforementioned research objectives, the following chapter provides the conceptual foundations as well as an in-depth introduction to the topic. Building on this, Chapter 3 presents the basic research design and the structure of the literature analysis as well as the data collection. This is followed in section 4 by the presentation of the results of the literature analysis based on the research objective and categorised according to the sub-objectives of this thesis. Finally, section 5 discusses the results and section 6 summarises the results of this work and provides a critical appraisal.

2 Current State of the Solved Problem

As already shown in section 1, the division of labour, efficiency gains and the optimisation of business processes are inextricably linked. The division of labour and efficiency are of particular importance in both business management and economics. However, both branches of research look at it from different angles. A regular review and adjustment of internal company processes, whether due to external factors or adjustments to the organisational and operational

structure, is essential. Without appropriate process optimisation, the efficiency of processes will steadily decline. As a result, low process efficiency has a negative impact on productivity in the company (Cf. Schmelzer & Sesselmann 2020: 10). In addition to the context of the optimal design of processes, the term efficiency is used in business administration for the optimal use of resources and resource allocation in the company (Cf. Thommen et al. 2023: 54). Last but not least, the well-known dichotomy of effectiveness and efficiency is an integral part of business management research (Cf. Thommen et al. 2023: 54). From an economic perspective, efficiency primarily refers to Pareto optimism. This principle states that a state is said to be Pareto-efficient if it is impossible to improve the welfare of one person without worsening the welfare of another (Cf. Valerian 2016: 15-16). Pareto efficiency is an important concept in welfare economics and is often used in the analysis of markets and allocation problems (Cf. Valerian 2016: 685). The economic literature also differentiates between three types of inefficiency. The first is X-inefficiency, which was coined by *Harvey Leibenstein* in 1996 (Cf. Leibenstein 1966: 392-415). He assumes that large companies in particular are not able to control costs precisely enough, which leads to higher unit costs. The second type is allocative inefficiency. This type of inefficiency occurs when resources are not optimally allocated to production so that society does not receive the combination of goods and services that best suits its preferences. There is a misalignment of production with the needs of consumers (Cf. Leibenstein 1966: 392-397). The third and final type of inefficiency is productive inefficiency. Productive inefficiency occurs when a company does not use the lowest possible costs for the production of goods or services. More of the factors of production (labour, capital, etc.) are used than would be necessary to produce the same amount of output (Cf. Dorman 2014: 285). Analogous to the consideration of efficiency from an economic and business management perspective, a similar differentiation can also be identified for the division of labour.

In principle, organisation in general and division of labour in particular can be seen as a management task (Cf. Thommen 2023: 526). The division of labour allows employees to concentrate on their specialised tasks, which leads to more efficient execution. This can lead to cost savings and quality improvements, which in turn means efficiency gains (Cf. Zuckarelli 2023: 26). Division of labour can generally be defined as "Different tasks are divided among different people, rather than everyone doing everything. The main form that division of labor takes in modern society is specialisation in the production of different goods and services. A society with no division of labour would be one in which individuals are selfsufficient, producing all the goods they consume to survive" (Dorman 2014: 520). In business management terms, the division of labour in manufacturing and production is a fundamental principle. Tasks are divided between different workers or machines (Cf. Thommen 2023: 526). At the same time, efficiency is increased, which demonstrates the existing link between the division of labour and efficiency. Everyone benefits from the division of labour in the production of goods that individuals need (Cf. Zuckarelli 2023: 26). A form of division of labour also arises through the outsourcing of activities by concentrating on core competencies within the company (Cf. Grimm & Haag 2023: 12-13). In microeconomics, the division of labour is represented by the labour market and the marginal productivity of labour. Companies decide how many workers they should hire in order to maximise marginal productivity and minimise costs (Cf. Mankiw 2021:198).The understanding of specialisation for the production of goods can be found in both business economics and microeconomics (Cf. Mankiw 2021: 501 & 641-642).In microeconomics, the division of labour is also explained by the concept of comparative advantage.Individuals or countries specialise in the production of goods or services in which they have a comparatively higher productivity advantage.This leads to trade and division of labour on an international level (Cf. Kolmar 2022: 34). Another economic

perspective is the division of labour as a cause of positive economies of scale.(Cf. Zuckarelli 2023: 191).

A connection similar to that between efficiency and division of labour can also be established between business process optimisation and division of labour. An effective division of labour can be seen as part of process optimisation. By dividing up the tasks and improving the interfaces between the tasks, the entire business process can be optimised. Reducing the complexity of business processes can be achieved through the division of labour or outsourcing (Cf. Schmelzer & Sesselmann 2020: 235). The division of labour can therefore be defined as the division of an overall task into smaller, specific tasks that are performed by different people or teams (Cf. Vahs 2019: 49). According to organisational theory, the task differentiation and specialisation of the task carriers resulting from the division of labour promotes complexity and creates the problem of ultimately bringing the separately completed subtasks back together in a targeted manner (Cf. Vahs 2019: 49-50). Process optimisation aims to increase efficiency (Schmelzer & Sesselmann 2020: 505). The aim of business process optimisation is always to increase process efficiency, which is why the two considerations are inextricably linked (Cf. Gadatsch 2023: 200). Efficiency increases can be measured along the familiar dimensions of quality, time and costs (Cf. Gadatsch 2023: 200). Customer satisfaction should also be taken into account as a further dimension (Cf. Gaitanides et al. 1994: 13-20).

In this context, it is also important to consider the concept of opportunity costs. With every decision, whether at an individual or macroeconomic level, there are always alternatives that have to be given up. These alternatives have a value, and this value is referred to as opportunity costs (Cf. Zuckarelli 2023: 19-20). In summary, opportunity costs can be defined as follows: "Opportunity cost is ex-ante implying that you still have the opportunity to make a choice" (Chang 2023: 48). However, the various interpretations of the term costs in business administration must be distinguished from this (Cf. Thommen 2023: 310-326). Opportunity costs are closely related to decisions. As already described, the decision in favour of an alternative means having to give up another alternative, for example due to time constraints. In order to be able to make a target-oriented decision, the value of the alternatives must be operationalised. Opportunity costs can often be expressed in monetary units, such as lost sales (Cf. Zuckarelli 2023: 19-20). This is particularly useful in view of the fact that opportunity costs are not always obvious and are reflected in monetary transactions (Cf. Zuckarelli 2023: 21). This makes it all the more important to know the alternatives before making a decision (ibid.). If there is a lack of knowledge about the alternatives, there is a risk of making the wrong decisions and not maximising the use of resources (Cf. Zuckarelli 2023: 23).

The decision to optimise processes and the associated opportunity costs is also closely linked to the topic of outsourcing processes. In addition to outsourcing, offshoring is another form of business process outsourcing that should be considered in detail. With offshoring, certain business processes or services are relocated abroad. These processes or services are then carried out either by internal subsidiaries or external third-party providers (Cf. Klimkeit et al. 2024: 337). Outsourcing, on the other hand, always means outsourcing to a third-party provider (Cf. Klimkeit et al. 2024: 337-338). The main driver for outsourcing processes or services is certainly cost savings (Cf. Klimkeit et al. 2024: 339). Outsourcing or relocating processes abroad can also often lead to economies of scale (ibid.). The outsourcing strategy can also be justified with the idea of increasing efficiency or concentrating on core areas or core processes (ibid.).

In summary, section 2 shows that the areas of division of labour, efficiency, opportunity costs and outsourcing are closely linked to business processes. There is also a close connection

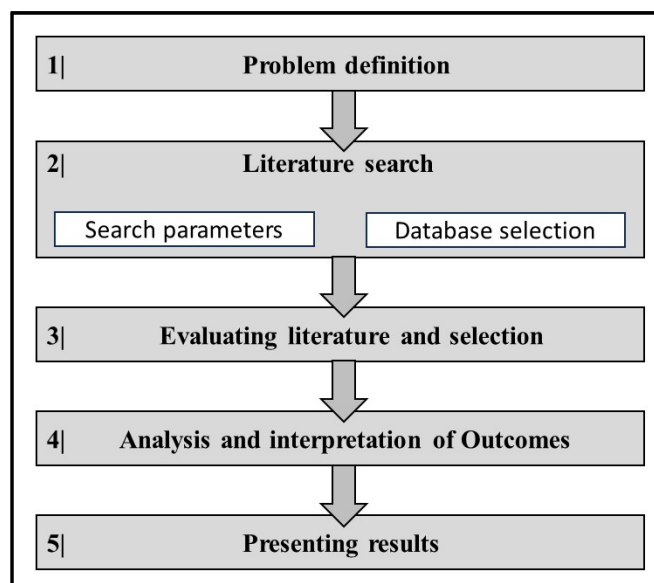
between the aforementioned focus areas, which will be examined and answered in more detail in the following literature analysis based on the research questions presented in section 1.

3 Research Methodology and Methods

In order to answer the research question and the associated sub-research questions, a suitable research approach is required. The research design describes the manner of the investigation and thus represents the research process (Cf. Yin 2014: 27-28). The research method therefore describes the path to the defined research objective. It also serves to answer the research questions within the available resources (Ibid.). The aim of the work influences the appropriate research approach and since this involves breaking new ground in many places, an open and adaptable research approach is desirable (Cf. Flick 2012: 173). A distinction can be made between a theoretical-deductive and an empirical-inductive approach (Cf. Oehlrichs 2022: 20). In the deductive approach, an individual case is examined on the basis of an existing theory (Cf. Reichertz 2022: 81). Put simply, the tried and tested is applied to a new case. This methodology is therefore tautological (Ibid.). In contrast, in an inductive approach, conclusions are drawn about the general validity of a particular case through empirical investigation (Cf. Reichertz 2022: 81-82). A deductive research approach is chosen for this study. In deduction, conclusions are drawn from the general to the specific. In this paper, literature as theory forms the basis for gaining knowledge (Cf. Oehlrich 2022: 19). A literature analysis requires the fact that the findings are not based on new facts, but merely represent the implementation of a summary of previously published literature (Cf. Manten 1973: 75).

The quality of the results of a literature analysis is closely linked to the survey methodology used. For this paper, the approach developed by *Cooper et al.* for a literature analysis is followed (Cf. Cooper et al. 2019: 3-16). The procedure is divided into five steps: problem formulation, literature search, literature selection and evaluation, analysis and interpretation of the results, and presentation of the results (Cf. Cooper et al. 2019: 12-15). The following figure visualises the process.

Figure 1
Process systematic literature analysis



Source: Own illustration

Once the research problem - in this case the role of business process optimisation, taking into account the division of labour and efficiency gains compared to opportunity costs from a microeconomic perspective - had been defined in Chapter 1 in particular, the second phase involved surveying the literature. The associated search criteria and the sources of the literature survey must be defined for this purpose. The databases Web of Science, EBSCO and WISO were used for the literature search.

A mixture of primarily German-language and primarily English-language databases was to be used. To prevent a one-dimensional search process, a citation analysis of already identified works was used in addition to the databases. The search terms used are based on the research questions from Chapter 1, the theoretical foundations in Chapter 2 and the specialised literature read. The keywords used are formulated in English and German. For a more targeted application of the search terms, the Boolean operator "AND" and the asterisk are used as placeholders. The Boolean operator "OR" was used for the search in the title and in the abstract. Figure 2 shows the selected search terms.

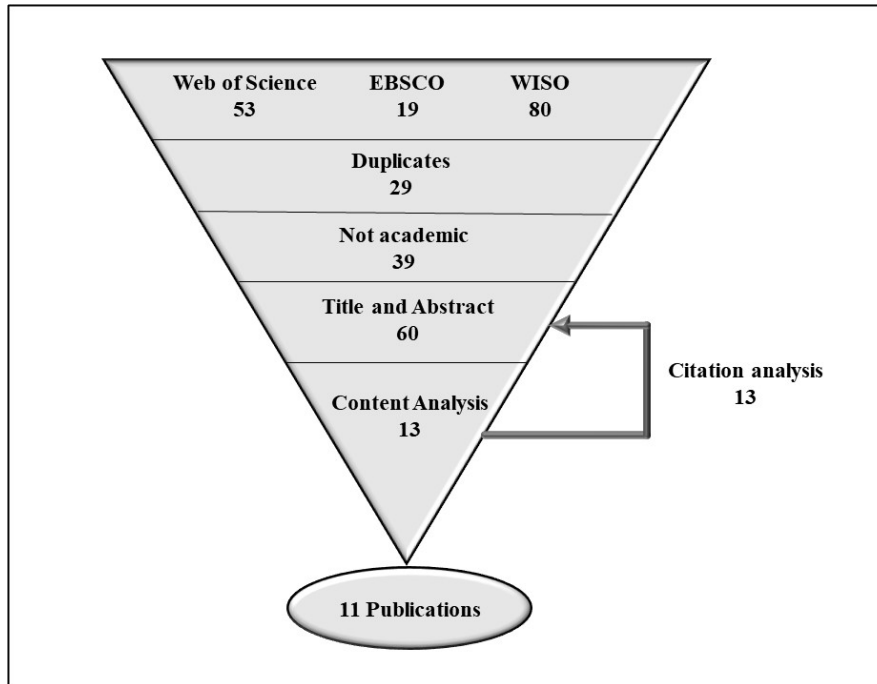
Table 1
Search parameters and search conditions

German	English	Search term
Prozessoptimierung AND Arbeitsteilung	Business Process Optimization AND Division of Lab*	In Title or Abstract
Prozessoptimierung AND Effizienz	Business Process Optimization AND Efficiency	In Title
Opportunitätskosten AND Outsourcing AND *Prozessoptimierung	Opportunity costs AND Outsourcing AND Business Process Optimization	In Title or Abstract
Opportunitätskosten AND Effizienz* AND *Prozessoptimierung	Opportunity costs AND Efficiency AND Business Process Optimization	In Title or Abstract
Opportunitätskosten AND Effizienz* AND Arbeitsteilung	Opportunity costs AND Efficiency AND Division of Lab*	In Title or Abstract
Outsourcing AND *Prozessoptimierung	Outsourcing AND Business Process Optimization	In Title or Abstract

Source: Own illustration

The preliminary sample based on the search parameters was further limited by a sensible selection of criteria. There must be a reference to the topic of process management or process optimisation. In addition, the words division of labour, efficiency (in relation to process efficiency or efficiency in the economic sense), opportunity costs or outsourcing in connection with process optimisation must appear in the title and/or abstract. A minimum requirement for academic working methods, such as citation of sources and that the authors themselves are academics, will be taken into account in the selection process. Based on the aim of the work, a microeconomic perspective should also be recognisable in the contributions. Instead of a pure consideration of the journal ranking according to VHB-Jourqual3, unlisted articles as well as conference papers, monographs and collective works were also taken into account. The following figure summarises the filtering process based on the criteria described above.

Figure 2
Publication selection



Source: Own illustration

The numbers for the individual selection criteria show the publications that were not further analysed for the next selection step. Ultimately, 23 publications, which were monographs, articles in edited volumes and journal articles, were selected and subsequently subjected to a detailed content analysis. As part of the content analysis, 10 articles were selected. The backwards citation analysis described above enabled 13 journal articles relevant to the topic to be identified. These were also checked with regard to title and abstract and the remaining articles were then also subjected to a content analysis. This made it possible to identify one more relevant article. Finally, 11 articles were included in the analysis. Broken down by language, 3 German-language publications and 8 English-language contributions were identified. The results of the literature analysis and content analysis of the articles are presented in the following section.

4 Research results

In this section, the results of the literature analysis are presented descriptively. For this purpose, they are grouped according to the objectives formulated in Chapter 1, before being discussed and interpreted in Chapter 5.

4.1 Division of labour and efficiency in relation to business processes and business process optimisation

In five of the eleven publications identified, aspects of the division of labour and efficiency in business process optimisation can be found. Cost reduction and cost optimisation are listed as a central point of the division of labour in relation to business processes in four of the articles (Cf. Meinefeld & Schwarze 2005: 10; w.A. 1999: 1; Hübner 2008: 261-262; Gomes et al. 2023: 7259). Through a sensible and well thought-out division of labour and, in principle, specialisation, cost efficiency can be increased and the work to be performed can generally be carried out more cost-effectively (Cf. Meinefeld & Schwarze 2005: 10; w.A. 1999: 1). The

extent of specialisation has an impact on the degree of cost reduction (Cf. Meinefeld & Schwarze 2005: 11). At the same time, however, transaction costs increase (ibid.). In increasing cost efficiency, companies are focussing primarily on their core processes, also against the background of the expansion of partnerships with suppliers (Cf. Meinefeld & Schwarze 2005: 10-11; w.A. 1999: 1).

One publication deals with the healthcare sector and sees process optimisation through process automation as the primary cost-cutting potential (Hübner 2008: 261). It is pointed out that business process optimisation relieves the burden on employees and makes it easier for them to specialise, which in turn leads to fewer errors and these are also detected earlier (Cf. Hübner 2008: 266). *Gomes et al.* also see the greatest leverage in process optimisation through automation and subsequent division of labour in terms of employee specialisation (Cf. Gomes et al. 2023: 7259). *Giachetti & Jiang* believe it is important to break processes down into as small sub-steps as possible so that they can be learnt quickly and completed quickly (Cf. Giachetti & Jiang 2011). Manufacturing processes are seen as the most promising (ibid.). In their view, the costs of coordination are often higher than the benefits of specialisation in service-oriented business processes. (ibid.). This is because in service processes there are dependencies between the individual subtasks, which require more control effort than is the case with manufacturing processes (ibid.). For this reason, Giachetti/Jiang initially advocate the optimisation of manufacturing processes from the perspective of division of labour and specialisation.

Efficiency is closely related to the division of labour. The results of the literature analysis in this regard are presented below. In general, process optimisation is undertaken in order to increase the efficiency of processes (Cf. Hübner 2008: 259-260 and 266). Certainly, another goal related to increasing efficiency is the cost reduction and standardisation of processes described above. (Cf. Hübner 2008: 259). For *Gomes et al.*, efficient and effective processes are a guarantee of success and ensure the continuation of the company (Cf. Gomes et al. 2023: 7259). Several challenges are described in order to realise efficient and effective processes. The first challenge is the management of the company (Cf. Gomes et al. 2023: 7257). As the article by *Gomes et al.* primarily refers to logistics and supplier processes, the second challenge is the need for efficiency in order volumes and warehousing (Cf. Gomes et al. 2023: 7257). A modern warehousing system and the creation of a modern and good infrastructure are emphasised as ways to set up these warehouse processes efficiently (ibid.). Another important aspect is the existence of an inventory management strategy that recognises product availability and ensures fast delivery (ibid.). In this context, reference is made above all to digitalisation and thus process automation (ibid.). Of course, this also includes considerations regarding delivery routes, delivery times and costs in general when it comes to optimising processes and increasing efficiency (Cf. Gomes et al. 2023: 7258). New technologies will continue to change processes, make them more efficient and further reduce costs, as humans will be less and less involved in the processes. Drones and robots are cited as examples for deliveries (Cf. Gomes et al. 2023: 7259).

In summary, the section shows that division of labour in the sense of specialisation and efficiency, particularly in terms of cost reduction, are interrelated and interact with business process optimisation.

4.2 Business process optimisation and opportunity costs

Within the scope of the literature analysis, only one article could be identified that deals with the issue of opportunity costs and business process optimisation. *Giachetti & Jiang* see process optimisation and opportunity costs as closely linked, as both aspects attempt to conserve

resources within the company (Giachettin & Jiang 2011). In order to optimise a business process, there are usually several alternatives that need to be identified, analysed and evaluated. The evaluation of opportunity costs helps to make the best decision (ibid.). According to *Giachetti & Jiang*, it is about maximising benefits (ibid.).

4.3 Interaction between division of labour, efficiency and opportunity costs

Likewise, only one article addresses the triad of division of labour, efficiency and opportunity costs. *Shaw* emphasises customer needs, which must be linked to the division of labour and efficiency (Cf. *Shaw* 1995: 8). He also links efficiency with opportunity costs (ibid.). He goes on to explain that the division of labour leads to a more efficient economy. He also mentions the fact that comparative advantage is utilised. If this is followed, then production can be much simpler, faster and more efficient (Cf. *Shaw* 1995: 9). In particular, this can be maximised through specialisation and the exploitation of comparative advantage (ibid.). However, *Shaw* also notes that this is linked to opportunity costs (ibid.). The article also describes a causal chain which states that an increase in demand increases the division of labour and thus specialisation. This in turn leads to greater production efficiency and falling production costs. As a result, companies' sales and turnover increase. *Shaw* describes this as an upward spiral (Cf. *Shaw* 1995: 10). As this causal chain is linked to the strong market forces of supply and demand, the degree of specialisation in production capacity is limited (ibid.). From *Shaw's* point of view, it also makes little sense to break down the division of labour into ever smaller sub-steps, especially if the market is small. He sees this in strong connection with the increasing opportunity costs (ibid.). It is further explained that greater specialisation leads to a further separation of producers and consumers, which makes market exchange necessary (Cf. *Shaw* 1995: 10). These exchange processes in turn require time and time means opportunity costs (ibid.). The final aspect is that greater trade or market exchange leads to greater specialisation, which in turn increases efficiency and reduces costs (Cf. *Shaw* 1995: 11).

4.4 Outsourcing of business processes in relation to opportunity costs

Two of the eleven publications identified explicitly consider the connection between outsourcing business processes and opportunity costs. Cost reduction and focussing on core processes are the most important drivers in a decision for or against outsourcing processes (Cf. *Wadhwa & Ravindran* 2006: 3726). Criteria are defined that influence the process according to the two authors *Wadhwa & Ravindran*. These are the reliability of the supplier, its technical expertise, financial stability and production capacity (ibid.). In addition to the rather hard factors, soft factors such as an existing relationship with the service provider obviously also play an important role (ibid.). At the same time, the choice of service provider is described as relevant to success and as one of the most critical steps in the outsourcing of processes (Cf. *Wadhwa & Ravindran* 2006: 3735). *Schüller & Hübner*, on the other hand, argue that in the past, processes were outsourced to services purely from a cost perspective and that this was also the central decision criterion (Cf. *Schüller & Hübner* 2008: 245). Furthermore, they see all types of processes, from production processes to administrative and strategic processes, as fundamentally suitable for outsourcing (Cf. *Schüller & Hübner* 2008: 254). However, the objectives should be clearly defined and the results measurable (ibid.). With regard to opportunity costs, *Wadhwa & Ravindran* only cite the aspect of costs (Cf. *Wadhwa & Ravindran* 2006: 3726). Other possible decision criteria and a possible operationalisation are not mentioned. *Schüller & Hübner* do not define decision criteria either. This topic is taken up again in Chapter 5 as part of the discussion.

4.5 Effects of outsourcing on division of labour and efficiency in connection with business processes and business process optimization

Six of the articles found deal with the effects of outsourcing on the division of labour and efficiency in connection with business process optimisation. *Meinefeld & Schwarze* see outsourcing as expedient and necessary if it enables above-average efficiency gains (Cf. *Meinefeld & Schwarze* 2005: 12). At the same time, it is mentioned that the degree of complexity also plays a role and if this exceeds the "manageable level" (*Meinefeld & Schwarze* 2005: 12), the outsourcing of business processes should be examined (Cf. *Meinefeld & Schwarze* 2005: 12). The article does not provide a more detailed explanation of what is meant by complexity. *Meier et al.* see great outsourcing potential, particularly for processes that are not part of the company's core business, in terms of efficiency and the reason for specialisation (Cf. *Meier et al.* 2004: 48). This allows great potential for optimisation to be leveraged, particularly in support processes. An increase in the inter-company division of labour can be observed (*ibid.*). In addition to the advantages of optimising processes in terms of increasing efficiency, *Meier et al.* also mention the disadvantages of outsourcing. Above all, an increase in intransparency and complexity is seen (*ibid.*). Thinking about outsourcing only makes sense if the business processes are documented and visualised. Current process errors and duplication of work must first be uncovered before optimisation potential can be identified and a decision on possible outsourcing can be made (Cf. *Meier et al.* 2004: 48). The outsourcing of business processes is also being discussed in the healthcare sector (Cf. *Hübner* 2008: 266-279). The outsourcing of business processes from administration is also being discussed in terms of reducing costs and increasing efficiency (Cf. *Hübner* 2008: 276). In general, the publication sees the cost issue as the central factor in deciding whether business processes should be outsourced or not (*ibid.*). As an advantage of outsourcing, *Hübner* sees an increase in the willingness to optimise processes and at the same time, in her view, the probability of using new technologies increases, which in turn can lead to greater process automation (Cf. *Hübner* 2008: 266). In general, *Hübner* sees process optimisation and the subsequent increase in efficiency only as a snapshot, whereby the ever faster pace of technological progress makes it necessary to continuously review the efficiency of processes, also with regard to the service company where the process was outsourced (Cf. *Hübner* 2008: 267). *Hübner* does not address the effects of outsourcing on the division of labour.

In today's highly competitive environment, *Niknamfar & Niaki* see it as necessary to outsource business processes in order to be able to produce high-quality products at competitive costs (Cf. *Niknamfar & Niaki* 2017: 158). For this reason, specialisation in a few core competencies is essential in a company (*ibid.*). The selection of service providers for outsourcing is seen as critical to success. Process efficiency can only be increased through a critical selection and simultaneous review and optimisation of the processes to be outsourced (*ibid.*).

From the perspective of the agricultural sector, *Zhang et al.* deal with the issue of outsourcing business processes (Cf. *Zhang et al.* 2023: 2-4). From the perspective of *Zhang et al.*, the outsourcing of processes and their associated optimisation can lead to a vertical division of labour in agricultural production (Cf. *Zhang et al.* 2023: 2). The division of labour can increase productivity, which can ultimately lead to higher turnover (*ibid.*). By outsourcing, farmers gain time, transaction costs are reduced and there is more time to expand the business (*ibid.*). In addition, the increasing division of labour allows farmers to participate more in the modernisation of the agricultural sector and thus further optimise and automate processes and increase efficiency (*ibid.*). The article explicitly points out the importance of specialised service providers who should also be familiar with business process management in order to ultimately

maximise process efficiency (ibid.). Outsourcing therefore only makes sense if it coincides with an improvement in efficiency and thus optimisation of processes (Cf. Zhang et al. 2023: 4). It is also emphasised that there are not only advantages to the division of labour through outsourcing, but that the resulting transaction costs must also be taken into account (Cf. Zhang et al. 2023: 2-3). The outsourcing of processes, using the division of labour, can have a positive effect on the motivation of farmers to further expand the business, which also takes soft factors into account (Cf. Zhang et al. 2023: 3). In general, according to *Zhang et al.*, larger farms in particular benefit from the advantages of process outsourcing and the associated advantages of the division of labour and increased efficiency (Cf. Zhang et al. 2023: 13).

Similar to *Meier et al.*, *Wadhwa & Ravindran* state that companies should focus on their core processes and core competences and examine other processes with regard to outsourcing options (Cf. *Wadhwa & Ravindran* 2006: 3725). In particular, business processes based on overheads, IT systems and other processes that are not cost-efficient are mentioned (ibid.). Three main reasons are given for outsourcing processes. The first reason cited is that a service provider can usually perform the business processes more efficiently. This also includes the fact that outsourcing can offer better access to new technologies and operational platforms (see also *Hübner* 2008). Another reason cited is the reduction in headcount and therefore costs through the outsourcing of processes. As a final reason, *Wadhwa & Ravindran* cite increasing technological progress, which makes the market more complex and confusing, so that the advantages for companies through outsourcing are significantly greater due to the division of labour and efficiency (Cf. *Wadhwa & Ravindran* 2006: 3726). *Wadhwa & Ravindran* cite the price, quality, availability and throughput time of the business processes to be outsourced as criteria for selecting a service provider for possible outsourcing of processes (Cf. *Wadhwa & Ravindran* 2006: 3728). These criteria must be checked and evaluated individually in each case. Only through appropriate reliability and prior evaluation of internal processes can the division of labour and efficiency be increased through outsourcing (ibid.).

In this section, the results of the literature analysis were presented descriptively. In the following chapter, the results will be discussed and evaluated in relation to the research questions from the first chapter.

5 Discussion

This section serves to discuss the insights gained and to compare and answer the formulated research questions.

5.1 Division of labour and efficiency in relation to business processes and business process optimisation

The study shows that division of labour and specialisation are central components of business process optimisation. In the publications identified, cost reduction is repeatedly cited as a main objective of the division of labour. A well thought-out division of labour enables an increase in cost efficiency, as specialised units can complete tasks faster and with fewer errors. Specialisation allows complex business processes to be simplified, as specialised units complete their tasks faster and with fewer errors. The degree of specialisation has a direct impact on the level of cost savings. Companies can benefit from economies of scale through the division of labour and distribute fixed costs across several units, which leads to a reduction in unit costs. This underlines the importance of a strategically planned division of labour in business processes in order to minimise operating costs - through the division of labour, companies can increase productivity as specialised workers work more efficiently and deliver higher quality. This leads to a reduction in lead times and an increase in the overall productivity

of business processes. Due to changing customer requirements, it is becoming increasingly important to place the customer at the centre of the company's activities. Due to the increase in complexity and certainty, also known under the acronym VUCA (Cf. Gaubinger 2021: 7-10), companies must adapt quickly to market changes and respond to customer requirements. Specialisation allows companies to quickly switch to new technologies and methods without changing the entire process. This leads to greater adaptability and competitiveness.

Automated processes relieve the burden on employees and enable greater technical specialisation, which in turn reduces the error rate and increases efficiency. This shows that not only the specialisation of human labour, but also the integration of technology into business processes can play a key role in process optimisation. The automation of processes also helps to reduce costs. Digital transformation is emphasised as a key element in increasing process efficiency. Modern warehousing systems, inventory management strategies and the use of technologies such as drones and robots are helping to increase efficiency and reduce costs. This shows that continuous technological innovation and adaptation are essential for sustainable business process optimisation. The standardisation and documentation of processes as a starting point for increasing process efficiency was only mentioned by *Hübner* (Hübner 2008: 259). Without prior visualisation and documentation of the processes, process efficiency can hardly be increased, as waste, errors and problems in the processes remain undetected.

Proposals for measuring efficiency gains and possible methods were not found in the publications analysed. However, this may also be due to the fact that this was not taken into account in the keyword search. Obvious key figures for measuring the efficiency of processes can be cost reductions, throughput times, error rates, increases in output quantity or customer satisfaction. Benchmarking with a predefined peer group is a good idea here. These can be competitors and companies from the same sector as well as companies from other sectors.

In relation to the research question from chapter 1, it can be stated that both the division of labour in terms of specialisation and efficiency play an important role in the context of business process optimisation. This is particularly true against the backdrop of digital transformation and advancing technologisation as well as the associated process automation. Artificial intelligence will become increasingly important in order to further increase process efficiency and should be given greater consideration.

5.2 Business process optimization and opportunity costs

Within the scope of the literature analysis, only one article could be identified that explicitly deals with business process optimisation and opportunity costs. A discussion and interpretation of the results is made difficult by the limited number of articles. A critical question is whether other keywords would have produced a more comprehensive result in this context. We have seen in the publication that, according to *Giachetti and Jiang*, business process management and opportunity costs are closely linked. Both aim to utilise a company's resources efficiently. *Giachetti and Jiang's* main message is that there are always several alternatives when optimising business processes. In order to make the best choice, it is important to evaluate the opportunity costs of each alternative. This evaluation serves to maximise benefits by choosing the alternative that offers the greatest overall benefit at the lowest cost. Business process optimisation aims to make processes more efficient, reduce costs and improve quality. Opportunity costs play a decisive role, as they represent the costs of foregone alternatives when resources are used for a particular optimisation measure. It is important to conserve existing resources. This is a fundamental principle of economic behaviour. In a world of limited resources, it is important to utilise them as effectively as possible in order to achieve the greatest

possible benefit. The evaluation of opportunity costs enables companies to identify and realise the most efficient use of their resources.

A key point is that there are always several alternatives when optimising business processes. These alternatives must be identified, analysed and evaluated. This implies that process optimisation is not a linear process, but offers a variety of options that need to be carefully considered. The analysis of alternatives is crucial to ensure that the chosen optimisation strategy delivers the best results. In this context, the evaluation of opportunity costs plays a key role in the decision-making process. It helps to identify the best alternative by comparing the potential costs and benefits of the different options. This leads to informed decision-making based on a comprehensive cost-benefit analysis. Taking opportunity costs into account ensures that the chosen optimisation measure not only offers short-term benefits, but is also the best option in the long term. This works in the same way as a make or buy decision.

The author expected to find references in the literature on marginal benefits and marginal costs in connection with business process optimisation and opportunity costs. Marginal costs consider the change in the cost of production when an additional unit is produced (Cf. Zuckarelli 2023: 203). Marginal benefit considers the change in benefit when an additional unit of a good is consumed (ibid.). In relation to business processes, optimising them appears to make sense as long as the marginal benefit of the optimisation measures exceeds the marginal costs. This means that any further optimisation should be carried out as long as the additional savings or profits are higher than the additional costs of the optimisation. Opportunity costs come into play when resources are spent on optimisation measures that could otherwise be used for alternative projects or investments. Other approaches can include a break-even analysis or scenario planning. Another consideration is the extent to which strategic prioritisation of the company's internal business processes is beneficial here. This means that optimisations are carried out in areas that have the greatest influence on the company's goals and strategy

Giachetti and Jiang's paper provides valuable initial insights into the link between opportunity costs and business process optimisation. Their analysis shows that a careful evaluation of alternatives and opportunity costs is crucial to choose the most efficient and effective optimisation strategy. These findings are particularly relevant for companies that want to optimise the use of their resources and continuously improve their business processes. The fact that there are no other angles and perspectives on the topic must be seen as a limitation in the explanations, which means that the topic should be taken up again in research. For this reason, the formulated research question can also be regarded as unanswered.

5.3 Interaction between division of labour, efficiency and opportunity costs

Similar to section 5.2, only one publication could be identified that deals with the interaction between the division of labour, efficiency and opportunity costs. *Shaw's* article provides a comprehensive consideration of the relationships between division of labour, efficiency and opportunity costs and places these in a wider economic context. The relationship between division of labour and efficiency forms an important pillar of the analysis for this paper. *Shaw* describes that the efficiency of companies can be increased through specialisation. Specialists are often more productive and make fewer mistakes, which leads to higher outputs at the same or lower costs. The causal chain that *Shaw* demonstrates begins with an increase in demand, which promotes the division of labour and specialisation. This leads to higher production efficiency and lower production costs, which ultimately leads to an increase in sales and turnover. This upward spiral shows how closely the division of labour and efficiency are linked and how they can reinforce each other.

Although *Shaw* mentions the necessity of linking efficiency with opportunity costs, he does not go into more detail. From the author's point of view, the connection can be seen in the fact that efficient processes minimise opportunity costs, as resources are used optimally. For example, if a company produces more efficiently, it can utilise the resources freed up for other value-adding activities. Efficiency refers to the optimal utilisation of resources in order to achieve maximum results. In microeconomics, efficiency is often considered in relation to the allocation of resources (Pareto efficiency) and production (technical efficiency). Allocative efficiency means that resources are distributed in such a way that no one can be better off without making someone else worse off (Cf. Pindyck & Rubinfeld 2005: 763). This is primarily about efficient exchange processes and the advantages of trade. The second aspect to be considered is technical efficiency. Technical efficiency means that a company achieves the maximum output from a given set of inputs (cf. Pindyck & Rubinfeld 2005: 777). For our analysis, we need both forms of efficiency. In terms of opportunity costs and efficiency, resource allocation and thus the allocative efficiency of resources is an important component. In terms of processes, on the other hand, we look at the situation from the perspective of technical efficiency. The aim is to design processes in such a way that waste is minimised. In addition to the consideration of output in production (Cf. Pindyck & Rubinfeld 2005: 777-782), the concept of technical efficiency can also be applied to services, as an output is also generated as a result here.

Finally, let us look at the interaction between the division of labour and opposition costs. A key point in *Shaw's* argument is that increasing specialisation and division of labour are accompanied by opportunity costs. Opportunity costs arise when resources are used for a specialised task and are therefore not available for other potentially valuable tasks. *Shaw* points out that the division of labour, especially in smaller markets, can reach its limits. Excessive fragmentation of tasks leads to increased coordination and transaction costs, which can cancel out the potential efficiency gains. Division of labour can influence opportunity costs by offering the possibility of using resources more efficiently. However, increased specialisation and division of labour can also lead to higher transaction and coordination costs, which increases opportunity costs. Consequently, there must be an optimal degree of specialisation, taking into account opportunity costs, which is certainly dependent on determinants such as the size of the market or the availability of resources.

In summary, it is essential for companies to consider the interactions between division of labour, efficiency and opportunity costs and draw the right conclusions in order to maximise efficiency, reduce costs and find the right balance between specialisation and generalisation.

5.4 Outsourcing of business processes in relation to opportunity costs

The two publications by *Wadhwa & Ravindran* and *Schüller & Hübner* describe the possible connection between outsourcing business processes and opportunity costs. Both pairs of authors identify cost reduction and focussing on core processes as key drivers for the decision to outsource. This is in line with the general assumption in the literature that outsourcing enables companies to utilise resources more efficiently by focusing on their core competencies while saving costs by outsourcing less strategic processes. However, the consideration in connection with opportunity costs is very limited in the two publications analysed. *Wadhwa & Ravindran* consider opportunity costs mainly from the perspective of direct costs. They do not consider other potential decision criteria and a possible operationalisation of opportunity costs. This is a limitation of their analysis, as opportunity costs often also include non-monetary aspects such as lost innovation opportunities or reduced flexibility. *Schüller & Hübner* also do not specify detailed decision criteria, indicating that there is a gap in the literature that requires a more

comprehensive consideration of opportunity costs and other non-financial factors in outsourcing decisions.

The analysis shows that the decision to outsource business processes should not only be based on cost considerations. While cost efficiency is an important factor, companies should also consider other criteria such as the reliability and competences of the service provider as well as the quality of the existing relationship. Focusing solely on cost can lead to sub-optimal decisions that can have a negative impact on the organisation in the long term. Another important finding is that opportunity costs are often neglected in outsourcing decisions. This is problematic as opportunity costs offer a more comprehensive perspective on the potential consequences of a decision. Companies should therefore carry out a holistic analysis that includes both financial and strategic considerations in order to make informed decisions. With regard to possible decision criteria, it was expected that more would be listed. Possible examples that certainly need to be included in the analysis are risk aspects, the corresponding adaptability or access to innovations.

Similar to the explanations in section 5.2, further research is required in relation to the outsourcing of business processes in connection with opportunity costs due to the limited scope of the literature.

5.5 Effects of outsourcing on division of labour and efficiency in connection with business processes and business process optimisation

The publications analysed in section 4 clearly show that outsourcing is widely discussed and used as a strategy for increasing the efficiency of business processes in various industries. The aspect of the division of labour is also considered, albeit to a much lesser extent than efficiency. *Meinefeld & Schwarze* emphasise that outsourcing makes sense when above-average efficiency gains are possible. This emphasises the central role of efficiency gains as the main motivation for outsourcing. As *Hübner*, for example, also writes, outsourcing can lead to considerable cost savings, as external service providers can often offer cheaper labour, better technology and specialised expertise. Service providers that specialise in certain tasks can take advantage of economies of scale that allow them to work more efficiently and cost-effectively. Outsourcing allows companies to react more flexibly to market changes and adapt their resources more quickly. *Meinefeld & Schwarze* also mention that outsourcing should be considered when the complexity of a process exceeds a manageable level. This indicates that companies need to make a careful assessment of process complexity in order to fully realise the benefits of outsourcing. The type of process, whether it is more of a strategic process or a support process, plays a role here, but the number of parallel work steps, the number of interfaces and dependencies must also be taken into account. Detailed and transparent process documentation is essential in order to be able to validly assess process complexity.

Meier et al. emphasise that support processes in particular can be optimised through outsourcing, which leads to an increase in the inter-company division of labour. This leads to greater specialisation and thus to increased efficiency. In order to optimise the use of company resources, they see a concentration on core processes and basically on the unique selling proposition of the company as an important approach, as already mentioned several times in other sections of the analysis. Another important point is certainly the importance of selecting suitable service providers in order to realise efficiency gains through outsourcing. The selection criteria vary, but often include aspects such as price, quality and availability. These criteria must be evaluated in the context of the specific business requirements.

One aspect of outsourcing that is worth considering whether it can be applied to business processes is comparative advantage (Cf. Pindyck & Rubinfeld 2005: 784-790). Comparative

advantage means that a country has an advantage over another country in the production of a certain good if the production costs for this good are lower than the production costs of the good in another country compared to the production costs for other goods in that country (Cf. Pindyck & Rubinfeld 2005: 784). Applied to the outsourcing of business processes and thus the optimisation of these processes, this means that a company should outsource certain processes to external service providers if these service providers can carry out these processes relatively more efficiently and cost-effectively than the company itself. In this context, an in-depth analysis of which business processes are suitable is also appropriate. IT processes come to mind primarily, as service providers often have the expertise, technology and economies of scale to provide IT services more efficiently. In addition to the cost savings already mentioned several times, there are other advantages, such as focussing on core competencies, and the resources freed up can be invested in innovations. It is possible to react more quickly to market changes, which increases agility and adaptability. Access to modern technology and steps towards digital transformation can be realised more easily. The comparative advantage can be effectively transferred to the outsourcing of business processes. Companies should outsource processes where external service providers are relatively more efficient and focus on their own core competences. This leads to better utilisation of resources, cost savings and overall greater efficiency. Careful selection of the processes and service providers to be outsourced is crucial to realise the full benefits of outsourcing.

The interactions and effects between outsourcing, division of labour and efficiency are complex and multi-layered. Outsourcing can increase efficiency through specialisation and cost savings, while a well thought-out division of labour improves productivity and quality. The literature shows that a balanced consideration of all these aspects is necessary in order to optimise business processes and ensure long-term corporate success. In summary, it can be said that outsourcing can be an effective strategy for increasing efficiency and optimising processes if it is carefully planned and implemented. Organisations need to take a balanced view of the potential benefits and risks and ensure that they select the right processes and service providers to achieve the desired results.

6 Conclusion

This study examines the relationship between division of labour, efficiency and opportunity costs in the context of business process optimisation as part of a systematic literature analysis and from a microeconomic perspective. Based on the research questions, outsourcing is included in the analysis as an additional variable and determinant. The results of the literature analysis show that efficiency and division of labour, supported by automation and technological innovations, are central factors in business process optimisation. With reference to the research question, this study shows that there are numerous interactions between division of labour, efficiency, opportunity costs and outsourcing that influence the optimisation of business processes in companies and that all variables must be taken into account in the context of business process optimisation. Reducing costs and increasing efficiency through specialisation and process automation were identified as key benefits. However, it was also found that specialisation can increase transaction costs. Transaction costs also represent access to opportunity costs. The work shows that the outsourcing of processes can be a significant accelerator of efficiency increases and provide corresponding scope for innovation and focussing on core business. A decisive factor here is the selection of suitable service providers for process outsourcing. Standardised criteria must be defined for this, as well as a regular review of the added value of the collaboration. The definition of key performance indicators is a good idea. Important key figures are certainly quality, error rates, lead times, general throughput times or the satisfaction of internal and external customers. In addition to

quantitative aspects, qualitative aspects should always be included in the development of such reporting based on key figures.

It should be noted that the work is restricted by the limited availability of specific literature on opportunity costs and business process optimisation. There is a lack of empirical studies that comprehensively analyse this topic. The main limitation of the work is the limited number of publications found on individual research questions. In particular, the aspects of the interaction between opportunity costs and business process optimisation as well as opportunity costs together with efficiency and division of labour should be given priority here. A total of eleven publications were included in the analysis. Due to the partly industry-specific focus, such as healthcare or the agricultural sector, as well as the very heterogeneous geographical origin of the publications, cultural and industry-specific differences may affect the generalisability of the results. A further limitation of the work can be seen in the fact that some of the publications were published in older years, meaning that current developments are not covered.

Building on the findings of this work, an empirical survey should be carried out, particularly in the research area of opportunity costs and business process optimisation, and the aspect of outsourcing in connection with opportunity costs and business process management should be examined again. In this context, a quantitative survey by means of a survey would be appropriate. In particular, the role of artificial intelligence should be included in the survey and in further analyses with regard to opportunity costs and outsourcing.

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Prekážky pri implementovaní manažmentu IT služieb v podnikoch na Slovensku

Barriers in the Implementation of IT Service Management in Slovak Enterprises

Jana Filanová

Abstract

The success of implementing IT Service Management (ITSM) in enterprises depends on several key factors. The aim of the contribution is to identify barriers to the implementation of ITSM and to evaluate the current state of perception of these barriers in enterprises in Slovakia in the context of the level of maturity of ITSM processes. The research was carried out through a questionnaire survey. The research sample consists of 189 enterprises in Slovakia. As part of the analysis of the factors preventing the introduction of ITSM in enterprises in Slovakia, we have identified and named the most significant barriers. The analyzed companies stated that the biggest barrier to the implementation of ITSM is the organizational culture and the lack of priority for this process within the company. Research has also shown that a lack of communication and collaboration within departments has a significant impact on the state of ITSM. The presented results contribute to a better understanding of the barriers in the implementation of ITSM on the Slovak market and can serve as a starting point for the development of effective strategies for the support and improvement of this area in the corporate environment.

JEL classification: M15, M20

Keywords: IT service management, barriers, enterprises in Slovakia

1 Úvod

Informačné technológie sa čoraz viac spájajú so samotnou štruktúrou podnikov. Overené technologické a strategické modely strácajú svoju relevantnosť. Aby si podniky udržali výrobu, zvyšovali konkurencieschopnosť a generovali pridanú hodnotu, musia pristupovať k inovovaniu podnikových procesov flexibilnejšie, osvojovať si nové technológie a koncepty riadenia vyplývajúce z digitalizácie. Nastupujúce technológie sa stávajú nevyhnutnými prostriedkami budovania nových výrobných procesov, nakoľko miera ich efektívnosti a optimalizácia prevádzkových nákladov by bola nedosiahnuteľná konvenčnými nástrojmi.

Digitálna vízia je nevyhnutným základom procesu digitálnej transformácie. Definuje dlhodobé ciele podniku s ohľadom na aktuálne trendy a celkovú stratégiu podniku, ktorá je pre dosiahnutie cieľov nevyhnutná. Na definíciu konkrétnych cieľov a kľúčových ukazovateľov výkonnosti sa musia zúčastniť nielen jednotlivé oddelenia podniku, ale aj jednotliví zamestnanci, aby si uvedomovali význam celého procesu (Newman, 2018). Digitálna transformácia znamená predovšetkým technologický pokrok podporujúci existujúce podnikové procesy (Bharadwaj a kol., 2013; Vial, 2021). Z doteraz vypracovaných metodík, ktoré opisujú kľúčové momenty a podstatné témy prispievajúce k realizácii digitálnej transformácie vyplýva, že digitálna transformácia musí prebiehať ako komplexný, iteratívny, priebežne vyhodnocovaný a prispôsobovaný proces.

Pri implementácii digitálnej transformácie je efektívny manažment IS/IT kľúčovým faktorom úspechu. Bez efektívneho riadenia môže byť proces digitálnej transformácie riskantnejší a drahší v dôsledku plytvania a premárnených príležitostí. Riadiace orgány musia

rozhodovať o víziách a stratégiách spoločnosti, stanovovať firemné ciele, stanovovať transformačné úlohy, zabezpečovať súlad so stratégiou, politikami a štandardmi spoločnosti a monitorovať výkonnosť. Manažment IT služieb (ITSM) pomáha organizáciám implementovať a urýchliť digitálnu transformáciu. Prostredníctvom stratégií správy podnikových služieb môžu optimalizované funkcie ITSM pomôcť iným podnikovým funkciám nahradiť ich potenciálne zastarané, manuálne náročné činnosti/procesy technologickými pracovnými tokmi a ďalšími schopnosťami zvyšujúcimi produktivitu, ktoré sa nachádzajú v moderných nástrojoch ITSM (Akter a kol., 2020).

Implementácia manažmentu IT služieb môže čeliť rôznym prekážkam. Zmeny v procesoch a pracovných postupoch môžu naraziť na odpor zo strany zamestnancov, ktorí sú zvyknutí na existujúce spôsoby práce. Implementácia IT služieb často vyžaduje investície do nových technológií, školení personálu a aktualizácie infraštruktúry. Obmedzené finančné prostriedky môžu byť prekážkou. Ak vrcholové vedenie nevidí hodnotu alebo dôležitosť manažmentu IT služieb, môže chýbať potrebná podpora a záväzok.

Cieľom vedeckého príspevku je identifikovať prekážky (bariéry) pri implementácii ITSM a vyhodnotiť aktuálny stav vnímania týchto prekážok v podnikoch na Slovensku v kontexte úrovne zrelosti procesov v oblasti ITSM. Súčasný stav riešenej problematiky doma a v zahraničí obsahuje analýzu a komparáciu literárnych zdrojov. V časti Výskumný dizajn sú predstavené ciele a metódy výskumu. V ďalšej časti vedeckého príspevku sú prezentované výsledky výskumu a sformulované závery.

2 Súčasný stav riešenej problematiky doma a v zahraničí

Informačné technológie alebo IT sú kombináciou samotnej technológie a súboru IT služieb, ktoré zabezpečujú efektívnu implementáciu celkovej informačnej technológie v organizácii. Rovnako ako iné služby, riadenie IT služieb (ITSM) sa stalo globálnym predmetom, pretože riadenie IT je možné len prostredníctvom efektívnych protokolov ITSM a odporúčaní z praxe. Dobře implementovaný systém poskytovania ITSM zlepšuje kvalitu IT služieb, čo v konečnom dôsledku zvyšuje celkovú kapacitu a výstup organizácie (Sarwar a kol., 2023).

ITSM predstavuje metódu riadenia informačných a komunikačných technológií, ich prevádzky a rozvoja s využitím princípov riadenia založeného na službách z pohľadu zákazníkov aj poskytovateľov služieb IS/IT (Sukmandhani a kol., 2017). Správa služieb je súborom schopností a metodík, ktoré organizácia používa na plánovanie, budovanie, poskytovanie a zabezpečovanie kvality služieb, ktoré poskytujú zákazníkovi (interným alebo externým) – v oblasti IT sa to týka všetkého od aplikácií, cez siete až po údaje na pripojenie. ITSM je zdrojom praktických pokynov, ktoré sa majú používať ako štandard kvality pri vytváraní zlepšení procesov v spoločnosti (Uddin, 2019). Efektívna aplikácia ITSM sa dosahuje integráciou troch hlavných prvkov, konkrétne ľudí, procesov a technológií, do dobre navrhnutého systému, ktorý je založený na osvedčených priemyselných postupoch (Magdalena, 2017). Rozvoj služieb IS/IT, ich implementácia a podpora počas celého životného cyklu služieb IS/IT sú súčasťami ITSM (Cots a kol., 2016).

Implementácia ITSM je komplexný proces, ktorý zahŕňa riadenie a optimalizáciu IT služieb v organizácii (Ruiz a kol., 2018). Vypelost' procesov pri implementácii ITSM sa týka úrovne zrelosti a efektívnosti týchto procesov. K tomu môže byť použitý osvedčený rámec alebo model hodnotenia, ktorý umožňuje organizácii vyhodnotiť a zlepšovať svoje ITSM procesy (Ridley a kol., 2004). Medzi najčastejšie využívané koncepčné rámce, metódy a osvedčené postupy pri zavádzaní ITSM patria:

- **ITIL (Information Technology Infrastructure Library):** ITIL je jeden z najznámejších a najpoužívanejších rámcov pre ITSM. Poskytuje sériu osvedčených postupov a procesov, ktoré organizáciám pomáhajú dosiahnuť vysokú úroveň zrelosti. ITIL definuje rôzne úrovne vyspelosti procesov, ktoré sa pohybujú od nepredvídateľných a neorganizovaných procesov po plne optimalizované a riadené procesy (Vicente a kol., 2013).
- **COBIT (Control Objectives for Information and Related Technologies):** COBIT je rámec vyvíjaný ISACA (Information Systems Audit and Control Association), ktorý sa zameriava na riadenie a kontrolu informačných technológií. COBIT poskytuje množstvo procesov a kontrolných bodov, ktoré organizáciám umožňujú dosiahnuť vysokú úroveň zrelosti procesov (Tuttle a Vandervelde, 2007).
- **ISO/IEC 20000:** Tento štandard je špecifikáciou pre správu kvality IT služieb a procesy ITSM. Poskytuje rámec na hodnotenie a certifikáciu ITSM procesov. ISO/IEC 20000 definuje aj úrovne vyspelosti procesov, ktoré organizáciám pomáhajú dosiahnuť medzinárodne uznávanú kvalitu správy IT služieb (Cots a kol., 2016).
- **CMMI (Capability Maturity Model Integration):** CMMI je model vyspelosti procesov vyvinutý pre rôzne oblasti, vrátane softvérového vývoja a správy projektov. Organizácie môžu využiť CMMI na hodnotenie úrovne zrelosti svojich procesov a identifikáciu oblastí na zlepšenie (Aguiar a kol., 2018).
- **Six Sigma:** Six Sigma je metodológia, ktorá sa zameriava na minimalizovanie chýb a zlepšovanie procesov. Pri implementácii ITSM môže Six Sigma pomôcť dosiahnuť vysokú úroveň presnosti a efektívnosti procesov (Jones a kol., 2010).

2.1 Prekážky pri implementácii ITSM

Pri hodnotení vyspelosti procesov pri implementácii ITSM je dôležité zvoliť rámec alebo model, ktorý najlepšie vyhovuje potrebám a cieľom konkrétnej organizácie. Projekt zavedenia ITSM procesov v sebe integruje, harmonizuje a využíva niekoľko medzinárodne akceptovaných štandardov, z ktorých tiež vychádza (Pardo a kol., 2016). Výsledkom však je vždy originálny finálny produkt – proces definovaný v popísanej a prispôbenej podobe. Činnosti realizované v rámci projektu by mali byť v súlade s aplikovanými štandardmi z rôznych oblastí, t.j. že sa to dá a ak ich realizačný tím dobre ovláda. Počas vytvorenia finálneho produktu sa využíva predovšetkým ITIL – knižnica s rámcovým popisom procesov (Iden a Eikebrokk, 2014). Procesy je však nutné prispôbiť a vyhodnotiť v kontexte existujúceho prostredia, t.j. vytvoriť model vyspelosti procesov s využitím metodického rámca pre takýto model (Machado a kol., 2012). ITIL ponúka súbor „najlepších praktík“ pre správu IT služieb a je jedným z najrozšírenejších prístupov k riadeniu IT služieb na svete. V poslednej dobe čoraz viac podnikov implementuje centralizovaný model riadenia IT služieb založený na rámci ITIL (Iden a Eikebrokk, 2014). Avšak ani prijatím ITIL väčšina podnikov nezlepšila svoju úroveň riadenia IT služieb. Existujú faktory, ktoré sa stávajú prekážkami úspechu implementácie ITIL a ITSM (Tang a Todo, 2013).

Marrone a Kolbe (2011) sa vo svojom výskume zamerali na prekážky, ktoré súvisia najmä z nedostatočnou podporou vedenia podniku, nedostatkom zdrojov, času a ľudí, nedostatkom znalostí v oblasti ITSM a odporom voči zmenám. Komparáciou literárnych zdrojov (Göbel a Cronholm, 2015; Serrano a kol, 2021; Arendt, 2008; Tang a Todo, 2013; Sipahutar a kol., 2020) sme identifikovali rôzne prekážky pri implementácii ITIL (Information Technology Infrastructure Library) a IT Service Management (ITSM). Jednou z hlavných výziev môže byť odpor zo strany zamestnancov, ktorí môžu byť neochotní akceptovať zmeny v pracovných

postupoch. Finančné obmedzenia môžu predstavovať ďalšiu prekážku, obzvlášť pokiaľ ide o investície do nových technológií a školení personálu. Zastaraná technológia a neefektívne procesy môžu komplikovať implementáciu a vyžadovať dodatočné úpravy v existujúcej infraštruktúre. Nedostatok podpory vrcholového vedenia a neschopnosť identifikovať presné potreby zákazníka môžu viesť k nejasnostiam v cieľoch a stratégii implementácie. Komplexita ITIL a ITSM môže znamenať vysoké nároky na vzdelávanie zamestnancov a vyžadovať silnú komunikačnú stratégiu na zabezpečenie porozumenia a akceptovania nových procesov. Celkový úspech implementácie ITIL a ITSM závisí od schopnosti identifikovať tieto prekážky a vyvinúť stratégiu na ich prekonanie ešte pred začatím implementácie manažmentu IT služieb (Göbel a Cronholm, 2015).

3 Výskumný dizajn

Úspech implementácie ITSM a dosiahnutie najvyššej úrovne vyspelosti procesov závisí od rôznych faktorov. Hlavným cieľom tohto príspevku je identifikovať faktory, ktoré môžu byť prekážkami pri zavádzaní ITSM v podnikoch na Slovensku. Ďalším cieľom je vyhodnotiť, do akej miery sa jednotlivé faktory ovplyvňujú a aký vplyv majú na hodnotenie úrovne vyspelosti procesov v oblasti ITSM.

Na základe detailnej analýzy literárnych zdrojov sme vymedzili najvýznamnejšie prekážky (premenné), ktoré môžu ovplyvňovať úspešné zavedenie ITSM. Podrobný opis jednotlivých premenných je uvedený v tabuľke 1. Premenné boli zakomponované do rozsiahleho dotazníkového prieskumu, ktorý sme realizovali medzi podnikmi na Slovensku. Podniky hodnotili dôležitosť každej bariéry na stupnici od 0 do 100, pričom 0 predstavuje najnižšiu dôležitosť a 100 predstavuje najvyššiu dôležitosť.

Tabuľka 1

Prekážky (bariéry) pri implementácii ITSM

Premenné	Prekážky (bariéry)
P1	Organizačná kultúra (pripravenosť organizácie na zmenu)
P2	Odpor voči zmenám
P3	Nedostatok komunikácie a spolupráce v rámci oddelení
P4	Žiadna finančná podpora
P5	Požadovaný proces nemá žiadnu prioritu
P6	Nedostatočná podpora riadenia
P7	Realizátori nemajú dostatok skúsenosti s rámcom/-ami ITSM
P8	Žiadne školenie a kompetencie zamestnancov
P9	Zlé riadenie projektu a jeho prepojenie na strategické ciele organizácie
P10	Neschopní a neskúsení externí konzultanti

Zdroj: vlastné spracovanie

Dotazníkový prieskum bol zameraný na vyhodnotenie aktuálneho stavu v oblasti riadenia služieb IT (ITSM) a úrovne vyspelosti procesov v oblasti ITSM v podnikoch na Slovensku. Konečnú výskumnú vzorku tvorí 189 podnikov (N = 189), ktoré spĺňali podmienky na požadované údaje. Reliabilita dotazníka bola overená prostredníctvom výpočtu Cronbachovho koeficientu alfa. Z hľadiska právnej formy podnikov výskumnú vzorku tvoria hlavne spoločnosti s ručením obmedzeným (81,48%) a akciové spoločnosti (17,99%). V rámci pôsobnosti organizácie z geografického hľadiska je výskumná vzorka tvorená spoločnosťami

pôsobiacimi celosvetovo (34,39%), iba v SR (30,16%), v Európe (19,05%), na Slovensku a v Českej republike (10,58%). Zvyšok (5,82%) tvoria podniky, ktoré pôsobia len v určitom regióne Slovenskej republiky. Pokiaľ ide o sektorové pokrytie, najväčší podiel mala priemyselná výroba (20,11%) a ostatné činnosti (20,11%). Medzi odvetvia, ktoré tvorili viac ako 5% z celkového podielu ďalej patrili veľkoobchod a maloobchod; oprava motorových vozidiel a motocyklov (9,52%), informácie a komunikácia (8,47%), finančné a poisťovacie činnosti (7,41%), stavebníctvo (6,88%) a administratívne a podporné služby (5,82%). Z hľadiska štruktúry vlastníkov organizácie pôsobiacej v SR tvorí najväčší podiel výlučný domáci vlastník (46,03%), výlučný zahraničný vlastník (28,57%) a dominantný zahraničný vlastník (15,87%). Ďalšie kategórie tvoria spoločnosti s dominantným domácim vlastníkom (8,47%) a s podielom štátneho vlastníctva (1,06%). Štruktúra skúmanej vzorky z hľadiska sféry podnikania organizácie vo väzbe na IKT je nasledovná: IKT zákazník (76,19%), poskytovateľ IKT služieb (23,81%). Na kategorizáciu podnikov podľa veľkosti sme použili definíciu Európskej komisie (2003) pre malé a stredné podniky (SME). Výskumnú vzorku z hľadiska kategórie podnikov tvoria mikro podniky (18,52%), malé podniky (28,04%), stredné podniky (23,81%) a veľké podniky (29,63%).

Ďalšou skúmanou premennou bol stav v oblasti ITSM (S). Táto premenná vyjadruje subjektívne hodnotenie úrovne vyspelosti procesov v organizácii bez ohľadu na to, aké koncepčné rámce podnik využíva. Odpovede respondentov sme kategorizovali do jednotlivých úrovní 0 – 5 opísaných v tabuľke 2.

Tabuľka 2

Stav organizácie v oblasti ITSM

Úroveň	Stav v oblasti ITSM (S)
0	Oblasť ITSM neradíme.
1	Sme v oblasti noví a práve začíname s implementáciou procesov.
2	Máme relatívne nízku úroveň vyspelosti v rámci ITSM. Niektoré procesy sú zdokumentované a sú všeobecne pochopené, ale chyby sú pravdepodobné.
3	Máme strednú úroveň vyspelosti procesov v rámci oblasti ITSM. Procesy sú zdokumentované a monitorované z hľadiska súladu.
4	Máme primerane vysokú úroveň vyspelosti procesov v rámci oblasti ITSM. Naše procesy sú zdokumentované a merané podľa stanovených metrík.
5	Máme veľmi vysokú úroveň vyspelosti procesov v rámci oblasti ITSM. Naše procesy sú zdokumentované, pochopené, podložené metrikami a neustále kontrolované kvôli zlepšeniu.

Zdroj: vlastné spracovanie

Na spracovanie príspevku boli použité okrem štandardných metód vedeckej práce, ako sú analýza, komparácia a syntéza, aj špecifické metódy. Ide predovšetkým štatistické metódy na analýzu dát z dotazníkového prieskumu ako aj na vyhodnotenie a štatistickú verifikáciu výsledkov. Na vyhodnotenie výsledkov boli použité základné metódy popisnej štatistiky a korelačnej analýzy. Na vyhodnotenie závislosti jednotlivých premenných bola použitá štatistická metóda Kendall's Tau B. Táto metóda je využívaná na hodnotenie vzájomnej závislosti poradia dvoch premenných, a to bez ohľadu na to, aká je absolútna hodnota týchto hodnôt. Štatistická analýza bola realizovaná štatistickým softvérom Jamovi

4 Výsledky práce a diskusia

Implementácia manažmentu IT služieb môže čeliť rôznym prekážkam. Je dôležité identifikovať tieto prekážky a vyvinúť stratégiu na ich prekonanie ešte pred zavedením ITSM v organizácii. V tejto časti príspevku vykonáme podrobnú analýzu faktorov, ktoré predstavujú

hlavné prekážky pri implementácii ITSM v podnikoch na Slovensku. Následne vyhodnotíme, do akej miery sa jednotlivé faktory ovplyvňujú a aký vplyv majú na hodnotenie úrovne vyspelosti procesov v oblasti ITSM.

Tabuľka 3 prezentuje základnú analýzu premenných P1 – P10 pomocou deskriptívnej štatistiky. Vnútorňú konzistenciu jednotlivých faktorov hodnotíme ako výbornú (Cronbach's $\alpha > 0.9$). Na základe výsledkov štatistickej analýzy môžeme konštatovať, že najväčšou prekážkou pri implementácii ITSM v analyzovaných podnikoch je organizačná kultúra ($M = 50,77$; $SD = 32,22$). Úspešná implementácia ITSM vyžaduje zmenu v organizačnej kultúre. Ak organizácia nie je otvorená novým prístupom a zmenám v kultúre, môže to spomaliť proces implementácie. Druhou najväčšou bariérou je samotný fakt, že proces implementácie ITSM nemá v podniku žiadnu prioritu ($M = 46,19$; $SD = 32,48$).

Tabuľka 3

Opisná štatistika prekážok pri implementácii ITSM

Premenné	Mean (Priemer)	SE	Median	SD	Shapiro-Wilk	
					W	p
P1	50,77	2,34	50	32,22	0,93	< 0,001
P2	44,79	2,25	50	30,89	0,94	< 0,001
P3	37,60	2,25	40	30,92	0,92	< 0,001
P4	43,57	2,56	50	35,20	0,90	< 0,001
P5	46,19	2,36	50	32,48	0,92	< 0,001
P6	39,61	2,39	40	32,85	0,90	< 0,001
P7	44,19	2,44	50	33,51	0,92	< 0,001
P8	40,11	2,24	40	30,77	0,93	< 0,001
P9	37,61	2,29	30	31,48	0,91	< 0,001
P10	31,75	2,34	20	32,22	0,86	< 0,001

Zdroj: vlastné spracovanie

Poznámka: N = 189, min = 0, max = 100

Ďalšími faktormi, ktoré analyzované podniky vyhodnotili ako najväčšie prekážky pri zavádzaní ITSM sú odpor voči zmenám ($M = 44,79$; $SD = 30,89$), tiež konštatovanie, že realizátori nemajú dostatok skúsenosti s rámcami ITSM ($M = 44,19$; $SD = 33,51$). V neposlednom rade analyzované podniky vyhodnotili ako závažnú prekážku pri implementácii ITSM žiadnu finančnú podporu a nedostatočnú podporu vrcholového manažmentu podniku. Implementácia IT služieb často vyžaduje investície do nových technológií, školení personálu a aktualizácie infraštruktúry. Obmedzené finančné prostriedky môžu byť prekážkou. Ak vrcholové vedenie nevidí hodnotu alebo dôležitosť manažmentu IT služieb, môže chýbať potrebná podpora a záväzok. Analyzované podniky zároveň vyhodnotili ako nepodstatnú prekážku pri implementácii ITSM neschopnosť a neskúsenosť externých konzultantov ($M = 31,75$; $SD = 32,22$).

Pre každú premennú P1 – P10 bola vykonaná prieskumná analýza na testovanie normality pomocou Shapiro-Wilk testu (tabuľka 3). Podmienka normálnej distribúcie testovaných premenných nebola naplnená, preto sme na overenie závislosti medzi jednotlivými faktormi použili neparametrický korelačný koeficient – Kendall Tau B (τ). Na základe výsledkov korelačnej analýzy znázornenej v tabuľke 4 môžeme konštatovať, že medzi faktormi, ktoré predstavujú najvýznamnejšie prekážky pri implementácii ITSM v analyzovaných podnikoch existujú signifikantné vzájomné vzťahy. Vzťahy najsilnejšej intenzity ($\tau = 0,59$; $p < 0,001$) boli

namerané medzi premennými P6/P9, P7/P8 a P9/P10. Zistili sme, že nedostatočná podpora riadenia podniku úzko súvisí so zlým riadením projektu implementácie ITSM a jeho prepojením na strategické ciele organizácie. Silná závislosť bola zistená aj pri nedostatku skúseností s rámcami ITSM a chýbajúcimi školeniami, či kompetenciami zamestnancov.

Tabuľka 4
Korelačná matica

	S	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
S	—										
P1	0,05	—									
P2	0,08	0,43***	—								
P3	0,24***	0,36***	0,48***	—							
P4	-0,05	0,27***	0,32***	0,34***	—						
P5	-0,03	0,22***	0,28***	0,34***	0,47***	—					
P6	0,07	0,30***	0,45***	0,46***	0,51***	0,57***	—				
P7	-0,10*	0,26***	0,29***	0,31***	0,52***	0,48***	0,48***	—			
P8	-0,03	0,24***	0,27***	0,31***	0,45***	0,49***	0,48***	0,59***	—		
P9	0,05	0,28***	0,35***	0,44***	0,47***	0,51***	0,59***	0,55***	0,54***	—	
P10	0,07	0,16***	0,24***	0,27***	0,40***	0,33***	0,40***	0,44***	0,38***	0,59***	—

Zdroj: vlastné spracovanie

Poznámka: Korelačný koeficient: Kendall Tau B; Hladina významnosti: * $p < 0,05$; ** $p < 0,01$; *** $p < 0,001$

Čo sa týka vplyvu prekážok pri implementácii ITSM na hodnotenie stavu podniku v oblasti ITSM, štatistická významnosť bola preukázaná len v prípade premenných S a P3 (tabuľka 4), aj keď sila vzájomného vzťahu určená koeficientom Kendall Tau B nie je veľká ($\tau = 0,24$; $p < 0,001$). Môžeme však konštatovať, že bariéra v podobe nedostatočnej komunikácie a spolupráce v rámci oddelení má vplyv na stav v oblasti ITSM a hodnotenie úrovne vyspelosti procesov v manažmente IT služieb.

5 Záver

Úspech implementácie ITSM v podnikoch závisí od niekoľkých kľúčových faktorov. Prvým kritickým elementom je aktívna podpora vedenia a ich záväzkov voči tomuto procesu, čo poskytuje potrebnú organizačnú a finančnú podporu. Kvalita ITSM nástrojov, schopných spracovať rôzne procesy a prispôbiť sa potrebám konkrétneho podniku, je tiež kľúčovým aspektom. Zaangažovanie zamestnancov prostredníctvom školení a komunikácie, ako aj preskúmanie a optimalizácia existujúcich procesov, prispievajú k efektívnosti implementácie. Merateľné metriky a sledovanie výkonnosti procesov sú nevyhnutné pre hodnotenie úspechu, pričom flexibilita, bezpečnosť a súlad so zákonnými normami sú rovnako dôležité. Zabezpečenie, že ITSM odzrkadľuje kultúru a hodnoty podniku, a postupné, dobre riadené nasadenie, sú ďalšie faktory prispievajúce k úspechu implementácie. V konečnom dôsledku je nevyhnutné prispôbiť implementáciu konkrétnym potrebám a charakteristikám daného podniku pre dosiahnutie optimálnych výsledkov.

Každý podnik je jedinečný, a preto aj faktory ovplyvňujúce úspech implementácie ITSM môžu byť rôznorodé. Cieľom príspevku bolo identifikovať faktory, ktoré môžu byť prekážkami pri zavádzaní ITSM v podnikoch na Slovensku. Zistili sme, že analyzované podniky považujú za najväčšiu bariéru pri implementácii ITSM organizačnú kultúru podniku a problémom je aj to, že proces implementácie ITSM nemá v podniku žiadnu prioritu. Prínosom nášho výskumu

je tiež zistenie, že nedostatočná komunikácia a spolupráca v rámci oddelení má významný vplyv na stav v oblasti ITSM a hodnotenie úrovne vyspelosti procesov v manažmente IT služieb. Zistili sme tiež, že prekážka v podobe nedostatočnej podpory riadenia podniku úzko súvisí so zlým riadením projektu implementácie ITSM a jeho prepojením na strategické ciele organizácie.

Na odstránenie bariér pri implementácii ITSM by mal podnik podniknúť niekoľko dôležitých krokov. Na začiatku je dôležitá jasná podpora a záväzok vedenia podniku, ktoré by malo byť aktívne informované o výhodách ITSM. Dôležitá je aj komunikácia a vzdelávanie zamestnancov na vysvetlenie dôvodov a prínosov ITSM, čím sa zmierni možný odpor. Zabezpečenie dostatočných finančných a ľudských zdrojov, preskúmanie a optimalizácia existujúcich procesov pred implementáciou, a aktívne zapojenie zamestnancov do procesu sú rovnako kľúčové. Testovanie a pilotné programy pred plným nasadením môžu identifikovať potenciálne problémy v raných štádiách, zatiaľ čo konzultácie so zainteresovanými stranami a prezentácia úspešných príbehov môžu získať podporu a motivovať personál. Zabezpečenie správneho školenia, postupná implementácia, monitorovanie výkonnosti a podpora kontinuálneho zlepšovania sú ďalšie kroky na ceste k úspešnej implementácii ITSM a odstráneniu potenciálnych prekážok. Výsledky nášho výskumu prispievajú k lepšiemu porozumeniu prekážok v implementácii ITSM na slovenskom trhu a môžu slúžiť ako východisko pre vývoj efektívnych stratégií pre podporu a zlepšenie tejto oblasti v podnikovom prostredí.

Poznámka o riešenom projekte

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Zmeny v produktivite cestovného ruchu Slovenskej republiky v kontexte rozvoja po pandémie COVID-19

Changes in the productivity of tourism in the Slovak Republic in the context of development after the COVID-19 pandemic

Roman Lacko, Radúz Dula

Abstract

The objective of the presented study is to evaluate the productivity of tourism in the Slovak Republic at the regional level and to assess the causes of changes in productivity during and after the COVID-19 pandemic. The most significant findings of this study are the considerable regional differences in the characteristics of accommodation services in individual regions of the Slovak Republic. These fully correspond to the assumptions of Slovak tourism. The most important part was to evaluate the impacts of the pandemic and the subsequent development in the tourism of the Slovak Republic. We used the Malmquist productivity index to measure changes in productivity. Our findings showed a significant drop in productivity, mainly because there was no reduction in inputs (the government supported the preservation of accommodation service providers) but the performances were realistically minimal. Almost all significant changes in tourism productivity in Slovakia until 2023 were caused by a shift in the technological curve, the main component of which may also be the pandemic itself, but this requires further research. This implies that changes in resource allocation, i.e., technical efficiency, did not have a significant impact on productivity changes, and therefore, there were no significantly negative or positive managerial decisions at the regional level.

JEL classification: D24, L83, C67

Keywords: productivity analysis, travel and tourism, Slovak regions

1 Úvod

Pandémia COVID-19 spôsobila celosvetovo veľké turbulencie, ktoré nevynechali žiaden aspekt hospodárstiev krajín sveta. Jedným z najviac zasiahnutých sektorov bol cestovný ruch. Pokles výkonov cestovného ruchu súvisel s uzatváraním hraníc, s problémami v leteckej doprave, s obmedzením mobility ľudí, ale v konečnom dôsledku aj so strachom ľudí z možnej nákazy. V úvodných momentoch pandémie bolo pomerne náročné predpokladať budúci vývoj, a súčasne bolo na základe nedostupných dát náročné zhodnotiť dopad pandémie. Dnes, kedy už pandémia odznela je preto dôležité zhodnotiť dopady pandémie aj na sektor cestovného ruchu.

2 Súčasný stav riešenej problematiky doma a v zahraničí

Európa ako región, je vo všeobecnosti čo sa týka cestovného ruchu, najnavštevovanejším regiónom sveta. Výkony cestovného ruchu sú predovšetkým spôsobené vysokou návštevnosťou vybraných krajín, prevažne orientovaných v stredomorskom regióne. Tieto krajiny majú všetky predpoklady (prírodné a kultúrne) pre vysokú úroveň cestovného ruchu. Nielen predpoklady ale aj zdroje cestovného ruchu – ľudských kapitál, ekonomický kapitál prispievajú vo vysokej miere k výkonom cestovného ruchu – výstupom. Táto transformácia je v týchto krajinách aj vysoko efektívna, naopak viaceré výskumy považujú Slovensko za krajinu

neefektívnu (Martín et al. 2017; Lozano-Ramírez et al. 2023). Pomerne značné množstvo výskumov sa už venovalo problematike efektívnosti v oblasti cestovného ruchu, tieto výskumy potvrdzujú značné rozdiely medzi jednotlivými krajinami (Soysal-Kurt 2017; Bayrak a Bahar 2017). Výskumy vo svete sa snažia identifikovať príčiny rozdielov medzi efektívnosťou a produktivitou medzi krajinami sveta, za zmienku stojí aj index konkurencieschopnosti krajín v oblasti cestovného ruchu Travel and Tourism Development Index. Výskumy zdôrazňujú dôležitosť aplikácie vhodných metód, ktoré sú dostatočne reliabilné ale aj robustné vzhľadom na exogénne vplyvy (Fuchs 2004). Produktivita je jednou z možností merania a porovnávania transformačných procesov v oblasti cestovného ruchu, na čo poukazujú aj významné štúdie (Assaf a Tsionas 2018). Títo autori vo svojej štúdii ale poukazujú aj na ďalší dôležitý aspekt a tým je nedostatok porovnateľných údajov. Porovnateľnosť je teda vo veľkej miere regulovaná len na danú krajinu prípadne len vybranú množinu krajín. Na základe predošlých výskumov možno poukázať na to, že trend rastu produktivity v odvetví cestovného ruchu je zjavný (Sun et al. 2015). Tento rast je do veľkej miere podporený v niektorých prípadoch relatívne silným rastom výkonov cestovného ruchu a má vplyv aj samotný ekonomický rast ekonomík (Li et al. 2018). Rast produktivity cestovného ruchu má potvrdený signifikantný vplyv na rast domáceho (vo väčšej miere) aj príjazdového cestovného ruchu (Liu a Wu 2019). Tento rast následne pôsobí na ekonomiky v sekundárnych efektoch na rôzne sféry hospodárskeho rastu (Pham 2020).

3 Výskumný dizajn

Na základe prieskumu literatúry sme identifikovali značnú medzeru v meraní produktivity cestovného ruchu v podmienkach cestovného ruchu. Preto sme si za cieľ tejto štúdie zvolili zhodnotenie produktivity cestovného ruchu Slovenskej republiky na regionálnej úrovni a zhodnotenie príčin v zmenách produktivity v období počas a po pandémie COVID-19.

Metódou, ktorá je v extenzívnej miere využívaná na zhodnotenie produktivity v oblasti služieb je Malmquistov index produktivity (Färe et al. 1994). Výhodou tohto indexu je porovnanie zmien v produktivite vo zvolených časových obdobiach ale aj dekompozícia na efektívnosť technickú a efektívnosť technologickú, vzorec 1.

$$MPI_i^G = (ME_i \cdot TE_i^G)^{1/2} \\ = \left(\frac{E_i^{t+1}(x^{t+1}, y^{t+1})}{E_i^t(x^t, y^t)} \right) \cdot \left[\left(\frac{E_i^t(x^t, y^t)}{E_i^{t+1}(x^t, y^t)} \right) \cdot \left(\frac{E_i^t(x^{t+1}, y^{t+1})}{E_i^{t+1}(x^{t+1}, y^{t+1})} \right) \right]^{1/2} \quad (1)$$

Kde MPI_i^G je geometrický priemer Malmquistovho indexu produktivity, ME je technická (manažérska) efektívnosť a TE je miera technologické efektívnosti, posunu technologickej hranice. Zmena technickej efektívnosti poukazuje na zmeny pri efektívnosti pri premene vstupov na výstupy a je ovplyvniteľná procesmi vnútri rozhodovacej jednotky. Naopak technologická efektívnosť je neovplyvniteľná, keďže sa opiera o celkové zmeny v danom systéme.

Táto metóda je pomerne často využívanou aj pre odvetvie cestovného ruchu čo dokazuje jej extenzívne využívanie aj v konkrétnych vedeckých výskumoch (Nurmatov et al. 2021). Je využívaná v rôznych sektoroch cestovného ruchu ako sú napríklad ubytovacie zariadenia (Barros 2005; Cho a Wang 2018) ale aj iné aspekty cestovného ruchu (Yang et al. 2021; Sun et al. 2015).

V tomto príspevku budeme skúmať zmeny regionálnej produktivity cestovného ruchu na Slovensku. Jednotlivými rozhodovacími jednotkami teda bude 8 krajov SR. Skúmať budeme zmeny v produktivite za roky 2019 až 2023. Celkovo teda vzniknú 4 porovnávané obdobia.

Zdrojom dát bol Štatistický úrad SR a jeho databáza Datacube. Na výpočet zmien produktivity potrebujeme vstupné a výstupné údaje, na základe overených štúdií, ale aj na základe dostupnosti údajov na regionálnej úrovni sme ako vstupné údaje použili ukazovatele:

- Počet izieb v ubytovacích zariadeniach
- Počet postelí v ubytovacích zariadeniach
- Počet ubytovacích zariadení.

Ako výstupné premenné sme v tejto štúdiu použili

- Tržby za ubytovanie (v EUR)
- Počet prenocovaní
- Čisté využitie izieb (v %)

Pre bližšiu charakteristiku a metodiku výpočtu daných údajov odkazujeme na ŠÚ SR.

4 Výsledky práce a diskusia

V tejto časti sa budeme venovať vlastným výsledkom tejto štúdie, v úvode začneme s analýzou jednotlivých premenných pre model hodnotenia Malmquistovho indexu produktivity. V nasledujúcej tabuľke 1 uvádzame súhrnné štatistické indikátory za kraje spolu pre jednotlivé premenné.

Tabuľka 1

Deskriptívne indikátory vybraných ukazovateľov

Premenná	Priemer	Smerodajná odchýlka	Rozptyl	Min	Max
Počet izieb	34214.40	13499.61	182239448.00	17523.00	57306.00
Počet postelí	95261.05	43100.73	1857672520.00	48236.00	183815.00
Počet ubytovacích zariadení	2113.95	1197.33	1433587.79	1108.00	5019.00
Tržby za ubytovanie	50678243.45	34460772.57	11875448.e ⁸ .00	10547456.00	129596538.00
Počet prenocovaní	1580867.65	909960.50	828028114792.00	433289.00	3633294.00
Čisté využitie izieb	30.80	7.28	52.95	16.80	46.70

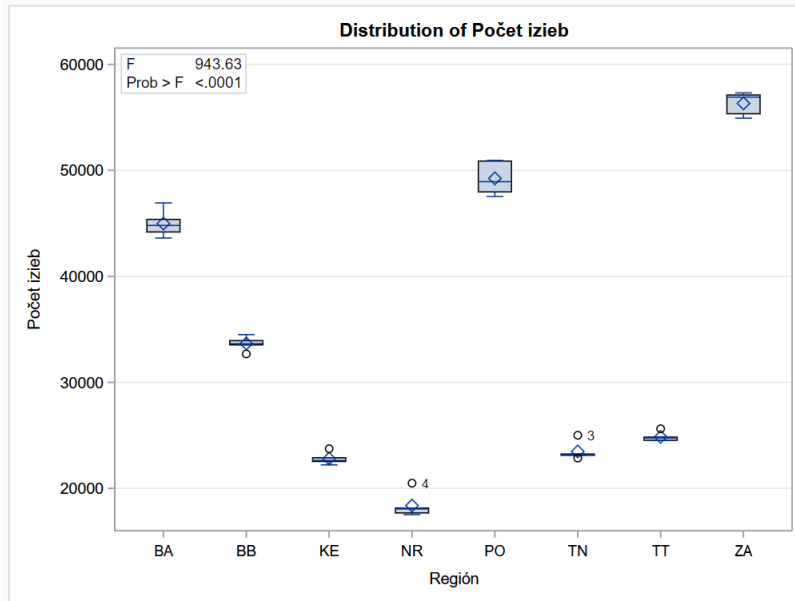
Zdroj: vlastné spracovanie

V ôsmich slovenských krajoch sa nachádza v priemere 34,2 tis. izieb, v ktorých sa nachádza približne 95,3 tis. postelí, to všetko sa nachádza v približne 2114 ubytovacích zariadeniach na jeden kraj. Priemerné tržby ubytovacích zariadení za jednotlivé kraje boli v sledovanom období približne 51 mil. € na jeden kraj. Tie prinieslo takmer 1,6 mil. prenocovaní. Priemerné využitie izieb bolo takmer 31%.

V grafe 1 uvádzame rozdelenie hodnôt premennej „Počet izieb“ za jednotlivé kraje.

Graf 1

Box-plot rozdelenia premennej Počet izieb

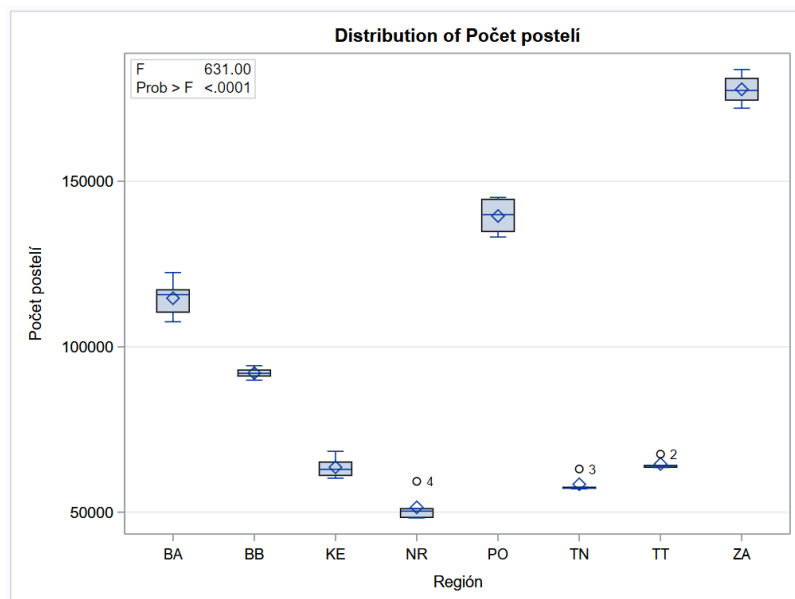


Zdroj: vlastné spracovanie

Región ZA má najvyšší priemerný počet izieb (56316.60), zatiaľ čo región NR má najnižší priemerný počet izieb (18377.60). Región PO má druhý najvyšší priemerný počet izieb (49246.60), čo je o niečo menej ako v regióne ZA. Región BB má priemerný počet izieb 33660.20, čo je mierne vyššie ako v regióne KE (22801.80), TN (23482.60) a TT (24849.40). Smerodajná odchýlka, ktorá ukazuje variabilitu dát, je najvyššia v regióne PO (1596.25) a najnižšia v regióne TT (454.9772522). To naznačuje, že počet izieb v regióne PO sa líši väčšmi, zatiaľ čo v regióne TT je konzistentnejší. V grafe 2 uvádzame rozdelenie hodnôt premennej Počet postelí za jednotlivé kraje.

Graf 2

Box-plot rozdelenia premennej Počet postelí

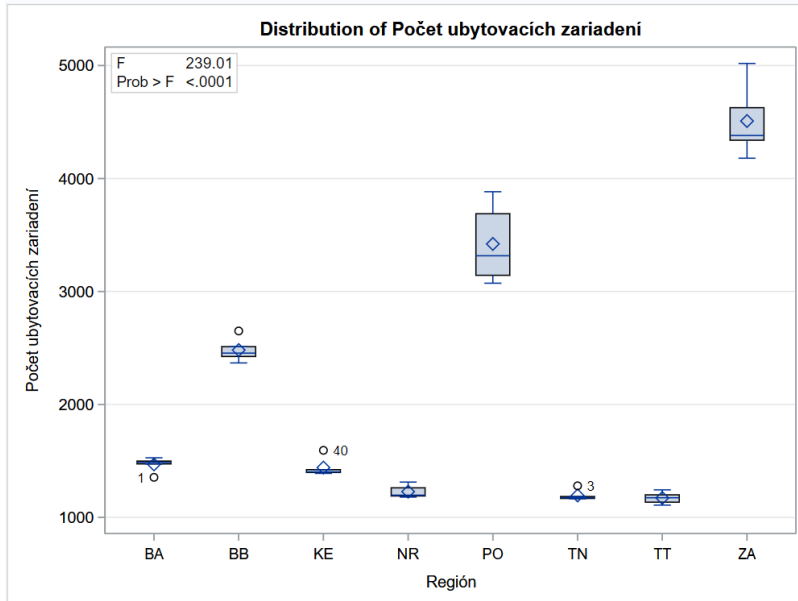


Zdroj: vlastné spracovanie

Región ZA má najvyšší priemerný počet postelí (177818.80), zatiaľ čo región NR má najnižší priemerný počet postelí (51459.60). Región PO má druhý najvyšší priemerný počet postelí (139533.40), čo je o niečo menej ako v regióne ZA. Región BB má priemerný počet postelí 92048.20, čo je mierne vyššie ako v regióne KE (63571.40), TN (58432.80) a TT (64546.80). Smerodajná odchýlka, ktorá ukazuje variabilitu dát, je najvyššia v regióne BA (5833.91) a najnižšia v regióne BB (1673.41). V grafe 3 uvádzame rozdelenie hodnôt premennej Počet ubytovacích zariadení v členení na slovenské kraje.

Graf 3

Box-plot rozdelenia premennej Počet ubytovacích zariadení

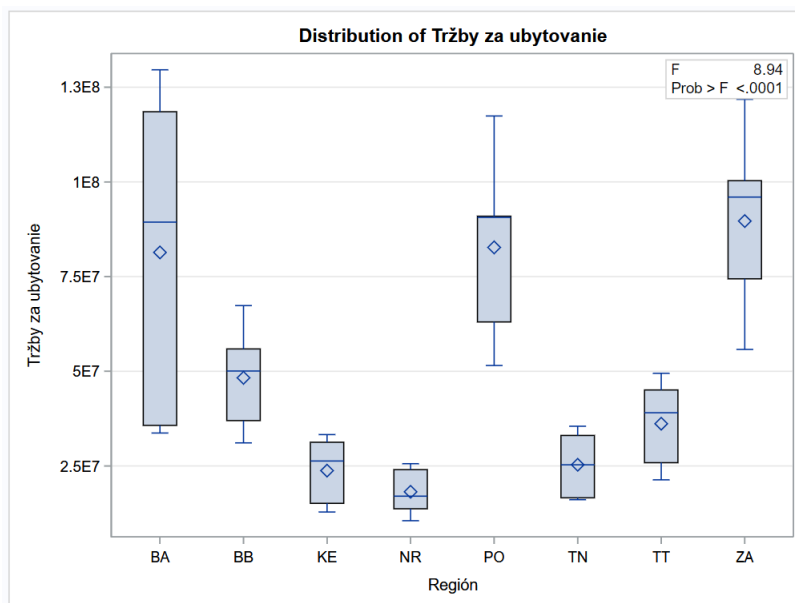


Zdroj: vlastné spracovanie

Región ZA má najvyšší priemerný počet ubytovacích zariadení (4509.20), zatiaľ čo región TT má najnižší priemerný počet ubytovacích zariadení (1171.40). Región PO má druhý najvyšší priemerný počet ubytovacích zariadení (3420.60), čo je o niečo menej ako v regióne ZA. Región BB má priemerný počet ubytovacích zariadení 2481.20, čo je mierne vyššie ako v regióne BA (1467.80), KE (1440.60) a NR (1227.40). Smerodajná odchýlka, ktorá ukazuje variabilitu dát, je najvyššia v regióne PO (351.4773108) a najnižšia v regióne TN (48.4592612). V grafe 4 uvádzame rozdelenie hodnôt premennej Tržby za ubytovanie za jednotlivé kraje.

Graf 4

Box-plot rozdelenia premennej Tržby za ubytovanie

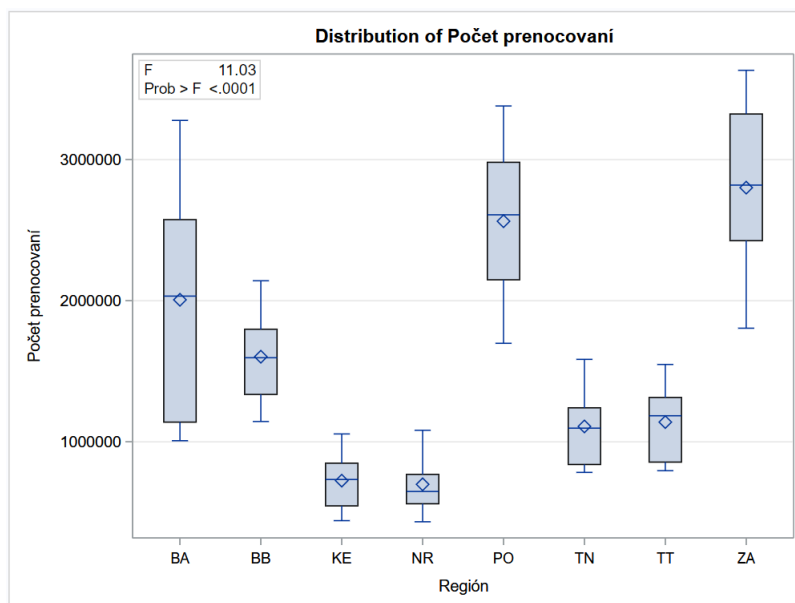


Zdroj: vlastné spracovanie

Región ZA má najvyššie priemerné tržby za ubytovanie (89658659.20), zatiaľ čo región NR má najnižšie priemerné tržby za ubytovanie (18177653.60). Región PO má druhé najvyššie priemerné tržby za ubytovanie (82704805.60), čo je o niečo menej ako v regióne ZA. Región BB má priemerné tržby za ubytovanie 48275029.60, čo je mierne vyššie ako v regióne KE (23763631.00), TN (25307292.60) a TT (36155638.80). Smerodajná odchýlka, ktorá ukazuje variabilitu dát, je najvyššia v regióne BA (45077578.45) a najnižšia v regióne BB (14557813.56). V grafe 5 uvádzame rozdelenie hodnôt premennej Počet prenocovaní za jednotlivé kraje.

Graf 5

Box-plot rozdelenia premennej Počet prenocovaní

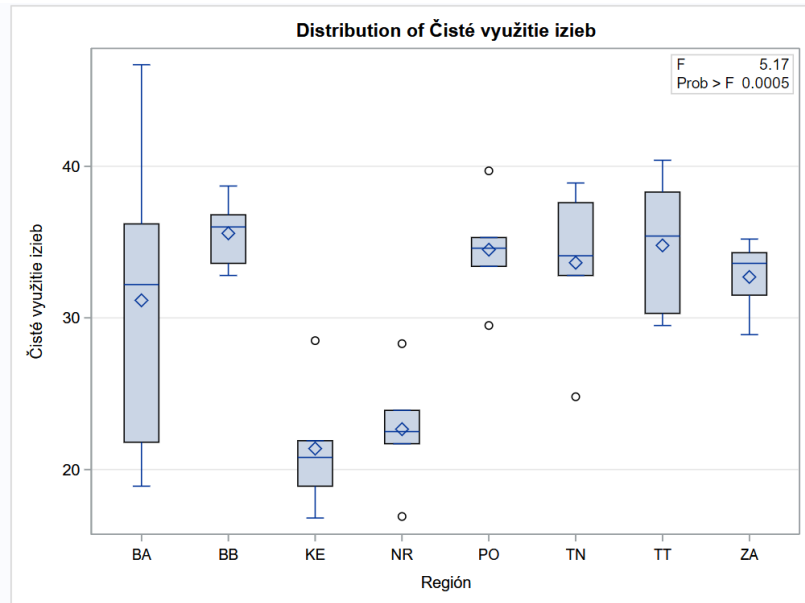


Zdroj: vlastné spracovanie

Z údajov je zrejmé, že región ZA má najvyšší priemerný počet prenocovaní (2801441.20), zatiaľ čo región NR má najnižší priemerný počet (698661.60). Región PO je na druhom mieste s priemerným počtom prenocovaní 2563551.40. Región BB má priemerný počet prenocovaní 1603067.40, čo je mierne vyššie ako v ostatných regiónoch BA, KE, TN a TT. Variabilita dát, vyjadrená smerodajnou odchýlkou, je najvyššia v regióne BA (960392.35) a najnižšia v regióne BB (390550.78). V grafe 6 uvádzame rozdelenie hodnôt premennej Čisté využitie izieb za jednotlivé kraje.

Graf 6

Box-plot rozdelenia premennej Čisté využitie izieb

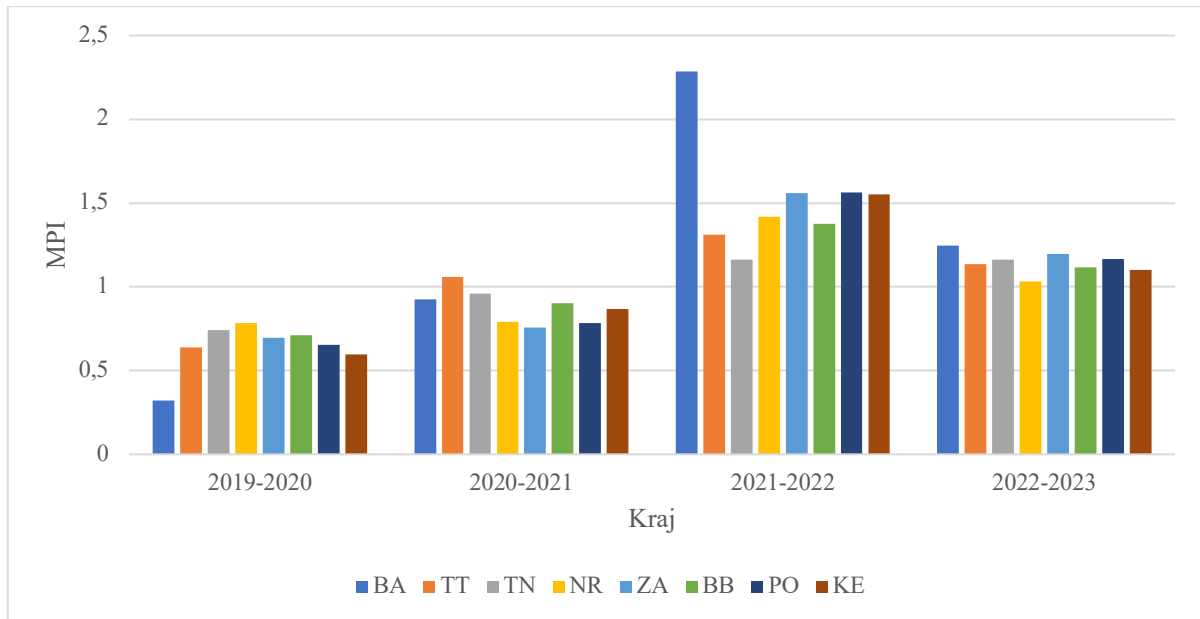


Zdroj: vlastné spracovanie

Z údajov je zrejmé, že región BB má najvyššiu priemernú hodnotu čistého využitia izieb (35.58%), zatiaľ čo región KE má najnižšiu priemernú hodnotu (21.38%). Región PO je na druhom mieste s priemernou hodnotou 34.50%. Smerodajná odchýlka, ktorá ukazuje variabilitu dát, je najvyššia v regióne BA (11.25%) a najnižšia v regióne BB (2.40%). V grafe 7 uvádzame vývoj hodnotenia zmeny v produktivite cestovného ruchu v krajoch SR.

Graf 7

Vývoj Malmquistovho indexu za jednotlivé kraje

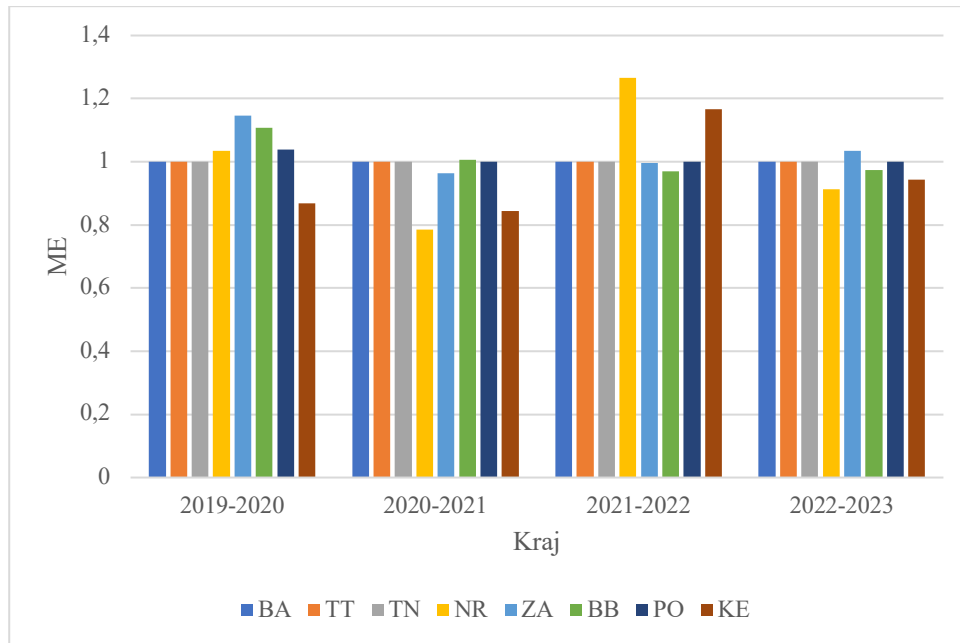


Zdroj: vlastné spracovanie

Hodnoty uvedené v grafe vyjadrujú nárast produktivity (ak hodnota $MPI > 1$), pokles produktivity (ak hodnota $MPI < 1$) prípadne nezmenenú produktivitu ($MPI = 1$). Môžeme vidieť, že príchod pandémie v roku 2020 spôsobil výrazný pokles produktivity vo všetkých krajoch Slovenska. Najvýraznejší pokles sme zaznamenali v prípade Bratislavského kraja (-67,9%) a naopak najnižší, ale stále pokles, bol zaznamenaný v kraji Nitrianskom (-21,7%). V roku 2021 došlo s výnimkou Trnavského kraja k ďalšiemu zníženiu produktivity, ten však už nebol taký výrazný ako v roku 2020. Trnavskému kraju vzrástla produktivita cestovného ruchu o takmer 6%. V roku 2022 došlo k výraznému nárastu produktivity, ktorý bol najvýraznejší v Bratislavskom kraji (kde v roku 2020 klesol najvýznamnejšie). Je nutné poznamenať, že nárast o takmer 129% je skutočne výrazný. Aj ostatné kraje rástli výrazne a nárast sa pohyboval od 16% v Trenčianskom kraji po 56,4% v Prešovskom kraji. Rok 2023 priniesol zastabilizovanie rastu produktivity. Nárast produktivity bol zaznamenaný v každom kraji, najviac v Bratislavskom (24,6%), najmenej v Nitrianskom (3,2%). V grafoch 8 a 9 je uvedený rozklad zmien MPI na zmenu technickej efektívnosti a technologickú zmenu.

Graf 8

Vývoj zmeny technickej efektívnosti

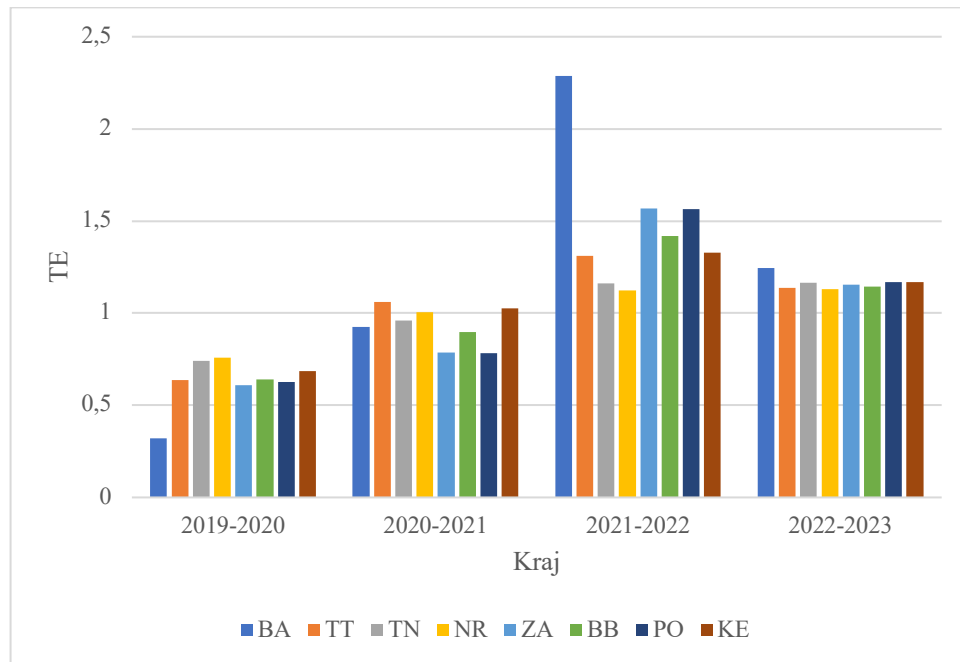


Zdroj: vlastné spracovanie

Graf 8 poskytuje pohľad aký vplyv mala na zmeny produktivity zmena v efektívnosti alokácii vstupov. A tieto vplyvy boli prevažne minimálne, v niektorých krajoch a rokoch dokonca žiadne keďže $ME=1$. Za možno najvýznamnejšie zmeny v technickej efektívnosti možno považovať zmeny v kraji Nitrianskom a Košickom.

Graf 9

Vývoj zmeny technologického posunu



Zdroj: vlastné spracovanie

V grafe 9 uvádzame zmeny spôsobené posunom technologických hraníc. Tu možno vidieť práve vplyv pandémie, ktorú takýmto posunom možno nazývať. Je teda veľmi dôležité rozlišovať v zmenách produktivity a ich príčinách.

5 Záver

Cieľom predkladanej štúdie bolo zhodnotenie produktivity cestovného ruchu Slovenskej republiky na regionálnej úrovni a zhodnotenie príčin v zmenách produktivity v období počas a po pandémie COVID-19. Na základe predošlých častí tejto štúdie možno konštatovať, že cieľ bol v plnej miere splnený. Najvýznamnejšími zisteniami tejto štúdie sú značné regionálne rozdiely v charakteristikách ubytovacích služieb v jednotlivých krajoch SR. Tieto nadväzujú v plnej miere na predpoklady cestovného ruchu Slovenska. Najdôležitejšou časťou bolo zhodnotenie vplyvov pandémie a následného vývoja v cestovnom ruchu SR. Naše zistenia ukázali na výrazný prepád produktivity, ktorý súvisel najmä s tým, že nedošlo k zníženiu vstupov (vláda podporovala zachovanie poskytovateľov ubytovacích služieb) avšak výkony boli reálne minimálne. Takmer všetky výrazné zmeny, ktoré sa v produktivite CR do roku 2023 na Slovensku udiali boli zapríčinené posunom technologickej krivky, ktorej hlavným komponentom môže byť aj pandémie samotná, to si však vyžaduje ďalšie skúmanie. Z tohto vyplýva, že zmeny v alokácii zdrojov, teda technickej efektívnosti nemali zásadný vplyv na zmeny produktivity, a teda, že na krajskej úrovni nedošlo ani k výrazne negatívnym ale ani pozitívnym manažérskym rozhodnutiam. Je taktiež dôležité podotknúť, že najväčšmi zasiahla pandémie kraje, ktoré sú charakteristickejšie vyšším počtom zahraničných turistov – Bratislavský, Prešovský a Košický.

Limitáciou tejto štúdie je nedostupnosť vybraných údajov z odvetvia CR na regionálnej úrovni, najmä v oblasti reštauračných služieb, ale aj služieb cestovných kancelárií a agentúr. Taktiež výrazne chýba zastúpenie indikátorov z oblasti ľudského kapitálu. Avšak aj z dostupných dát sme dokázali skonštruovať pomerne robustný model, ktorý môže slúžiť na ďalšie modifikácie a výskumy. V konečnom dôsledku je dôležité konštatovať, že slovenský cestovný ruch sa postupne dostáva na výkony z roku 2019. Tento záver preukázali aj výsledky našej štúdie.

Poznámka o riešenom projekte

Tento príspevok je čiastkovým výstupom projektov KEGA č. 020EU-4/2024 a VEGA č. 1/0109/24.

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Digitization of the country as a prerequisite for the future – comparison of V4 countries

Filip Stoviček - Lucia Čerňanová

Abstract

In this article, we want to identify the level of digitization in the countries of the V4. The paper is divided into 5 parts. After an initial introduction to the issues, a theoretical definition of the basic concepts related to the digitization of the country and its economy follows. In the third part, we define the research design of the paper. The fourth part is analytical, in which we specify the current level of digitization in the V4 countries and identify problem areas. Digitization is a prerequisite for the future functioning of the world.

JEL classification: J21, O31

Keywords: digitization, Industry 4.0, V4 comparison

1 Introduction

Digitalization is currently a process manifesting itself in all areas of human functioning. It is gradually asserting itself in all sectors of societal operation. The response of individual countries to the implementation of digital technologies in public administration and the support provided to businesses constitute the foundation for elevating the standard of living and the competitiveness of the country in the global market.

The generation of individuals born after the year 2000 cannot imagine their lives without the utilization of digital technologies. This trend has led new emerging businesses and startups to focus on maximizing the use of digital technologies in their operations. Similarly, young people tend to seek public services through online channels. Therefore, it is crucial for countries to orient themselves towards digital transformation. However, this process is relatively demanding for several reasons. Firstly, there is a need for sufficient capital to implement the necessary investments in technologies. Additionally, there is a requirement for an adequate supply of qualified workforce, and finally, a well-established and comprehensive infrastructure and network connectivity are essential.

Within this contribution, our focus lies in identifying the current state of digitalization levels in the V4 countries based on the Digital Economy and Society Index (DESI) values during the period 2017 to 2022. These countries share similarities in various functional domains, as well as in cultural and educational aspects. The primary objective of this contribution is to discern the level of digitalization in the V4 countries by assessing the DESI index values and to ascertain the pace of change in this index in comparison to the EU average and selected more advanced nations of our choosing.

In the first section of the contribution, we focus on defining fundamental concepts related to digitization and the electronic environment, while also specifying the essential elements of the "SMART economy." The second section outlines the main objective of the contribution, corresponding partial goals, characterizes the research subject, and describes the methodology employed in crafting the contribution. Following this, we transition to the analytical processing of the pertinent issues, specifically analyzing the Digital Economy and Society Index (DESI) for the Visegrád Group countries. Subsequently, we identify the pace of changes in various areas of the DESI index in comparison to the EU average and more developed EU nations (Germany and Austria).

2 Current State of the Solved Problem at Home and Abroad

Preston asserted that the most significant aspect of digital transformation is to change the mindset (2017). We fully align with this viewpoint, as unless a society perceives the elements of digitization as a positive development in its activities, it is not possible to fully integrate them into everyday operations. Currently, the process of digitization manifests itself in various facets of societal functioning. The cornerstone is the gradual transformation of the country's economy into a so-called "SMART economy".

Several authors focus on the process of digitization concerning the internal environment of an enterprise. However, it is crucial to recognize that for digital transformation within a business to be fully successful, the enterprise must operate within a digitally advanced environment. This implies that the process of digitization also extends to the public sector and the functioning of the entire economy. Within the strategy for Slovakia's digital transformation by the year 2030, it is noted that the process of digitization will alter how economic value is created, as well as the functioning and structure of markets (MIRRI, 2019). Consequently, we can affirm that it is a process involving significant changes resulting from the utilization of digital technologies both in society and industry (Majchrzak, 2016). The outcome of digitizing public services and the country brings about social benefits not only for citizens but also for organizations.

The digitization of the public sector is, in a way, specific and slightly distinct from the digitization of business processes. Firstly, in the public sector, it involves a "holistic" mindset that brings about reforms and changes based on strong programmatic ideals (Ejesbo & Greve, 2017). It is not just about introducing new digital technologies but also encompasses political ideas, ambitions, and interventions aimed at reassessing and transforming organizations in the public sector (Plesner, 2018). Secondly, it is essential to acknowledge that public organizations operate differently than the private sector. Most of them function based on laws and political decisions, subject to specific accounting and administrative procedures (Bejerot & Hasselbladh, 2013). Given these assumptions, a high level of state activity is necessary for the digitization of the public sector.

Alternatively, digitizing the business sector facilitates the transformation of boundaries, structures, processes, interactions, and roles within enterprises (Kache & Seuring, 2017). Within the business environment, the digitization process can be characterized as an investment in technologies that induces changes in business models and processes, thereby enhancing competitiveness in the ever-evolving digital economy (Gruber, 2018). Ubruh and Kiron offer a comparable definition of digitization, highlighting alterations in business models and enterprise processes that directly impact market competitiveness, particularly considering digitized products (2017).

Based on the provided definitions, it is evident that the digitization process, despite the distinct functioning of public administration and the business sector, is crucial for enhancing competitiveness not only for individual enterprises but also for the entire country.

The concept of the SMART economy, also known as the intelligent economy, emerged in the context of urban issues related to planning, sustainable development, and effective governance concerning climate change (Najdova, 2021). The objective of the SMART economy concept is to build intelligent cities contributing to the notion of sustainable development, ensuring economic and environmental equality (Harrison, 2010).

According to a group of authors, the SMART economy can be defined as an economy based on technological innovations, efficient resource utilization, sustainability, and high social well-

being as drivers of success (Frank & Fernández-Montesinos, 2020). The implementation of this concept aims to enhance the quality of life for all citizens.

Characteristics of the SMART Economy Concept:

- A novel approach to shaping economic growth, oriented towards the quality of life and new variables of the development model (basic needs, human capital, human rights, well-being, fundamental freedoms),
- a dynamic process manifesting over time and space,
- a multidimensional concept with three dimensions: economic, social, and psycho-motivational. The economic dimension focuses on the efficient utilization of economic resources to enhance the standard of living. The social dimension addresses health and educational parameters, expressing the qualitative nature of development. The psycho-motivational dimension is oriented towards the individual and the development of their knowledge and skills (Apostol, 2015).

Within the framework of the smart economy concept, many authors contemplate its relationship with the smart city. According to Vinod and Bharat, it is challenging to determine whether a city is smart due to a smart economy or vice versa (2017). However, according to Kok-China et al., a smart city is a concept of which one component is a smart economy (2018). Through the SMART economy and SMART city concepts, space emerges for innovative businesses and startups (Giffinger, 2007).

3 Research Design

The primary objective of this contribution is to identify the level of digitization in the V4 countries based on the values of the Digital Economy and Society Index (DESI) and to determine the pace of change in this index compared to the EU average and our selected more developed countries.

The subject of this contribution encompasses four countries that collectively form the Visegrád Group. Specifically, these are the Slovak Republic, the Czech Republic, Poland, and Hungary. For each country, we identified the index related to the level of digitization in the country – the DESI index for the years 2017 - 2022.

The DESI Index is the Digital Economy and Society Index compiled by the European Commission. This index is constructed to monitor the progress and level of digital competitiveness within the member states of the European Union. In terms of its composition, this index consists of 44 indicators, which are subsequently distributed across 5 assessed categories. Specifically, the evaluation covers:

- Connectivity (availability of internet access),
- digital skills (human capital concerning digitization),
- use of internet services,
- integration of digital technologies,
- digitization of public services.

Through this index, it is possible to identify both the overall level of digitization for a specific country and, through individual categories, pinpoint areas that pose challenges or, conversely, areas that are sufficiently developed. In addition to analyzing individual countries, this index can be utilized for the comparison of multiple countries, revealing the strengths and weaknesses of each country in comparison to others.

Through comparison, we assessed the rate of change in the values of individual factors within this index for the V4 countries. Subsequently, we compared them with the values of the EU, Germany, and Austria, as more advanced countries in the EU in this domain.

We gathered necessary data from various articles, reports from individual countries' ministries, and databases related to the examined index. Based on the acquired data, we computed the year-on-year change rate for each factor within the DESI index.

Within this contribution, our focus is directed towards addressing the following scientific inquiries:

RQ1: What is the level of digitization in the V4 countries based on the DESI index?

RQ2: What is the predisposition for the development of DESI index values in the V4 countries for the upcoming period in comparison to the EU average and more developed EU countries?

4 Research Results

The modern era brings about numerous changes that all entities within a country must cope with. This pertains not only to business entities but also to public administration and, not least, individuals themselves. The Visegrád Group, as a coalition of states, endeavors to develop comparable strategies for advancing the digital landscape of the country. Each of the four countries in this coalition has its individual strategy through which it aims to ensure the development of the country's digital landscape.

Hungary has several programs and initiatives for the development of its digital landscape: National Information Strategy, Digital Success Program, Digital Child Protection, Development of Digital Export, Digital Education, DJP2.0, Digital Hungary, Industry 4.0. The goal of all these programs and initiatives is to modernize infrastructure, the economy, and gradually introduce all citizens to the digital age.

Similar to Hungary, Poland has various government documents and programs aimed at improving the country's digital landscape. These include documents such as Poland 2030 – Development Challenges, Action Plan for Poland's Responsible Development. In addition to documents and programs, Poland has several institutions that support digital development in the country through their activities. These include the Ministry of Digitization, a key entity in the country focused on supporting digitization, and the National Cyber Security Center (NCC). Moreover, in Poland, there is a focus on communicating about Industry 4.0 and digitization in the media and professional discussions.

The Czech Republic also has several programs and strategies for the development of digitization in the country. One of them is the National Initiative Industry 4.0 issued by the Ministry of Industry and Trade. The country has also developed the National Strategy for Cybersecurity. In connection with cybersecurity, the National Cyber and Information Security Agency was established in 2017. Additionally, the government issues the National Reform Program of the Czech Republic annually, which is renewed each year and is based on the EU strategy. The Czech Republic also aims to develop the workforce in the field of Industry 4.0, and an Action Plan for the Workforce 4.0 has been created.

Slovakia has also developed several government documents, and in addition to them, there are several other initiatives in Slovakia to support the development of the digital environment. These include initiatives such as "Together for Slovakia.Digital," "Recognition.Digital," "Better e-Government," "You Too Are Slovakia.Digital," and others. Through these initiatives,

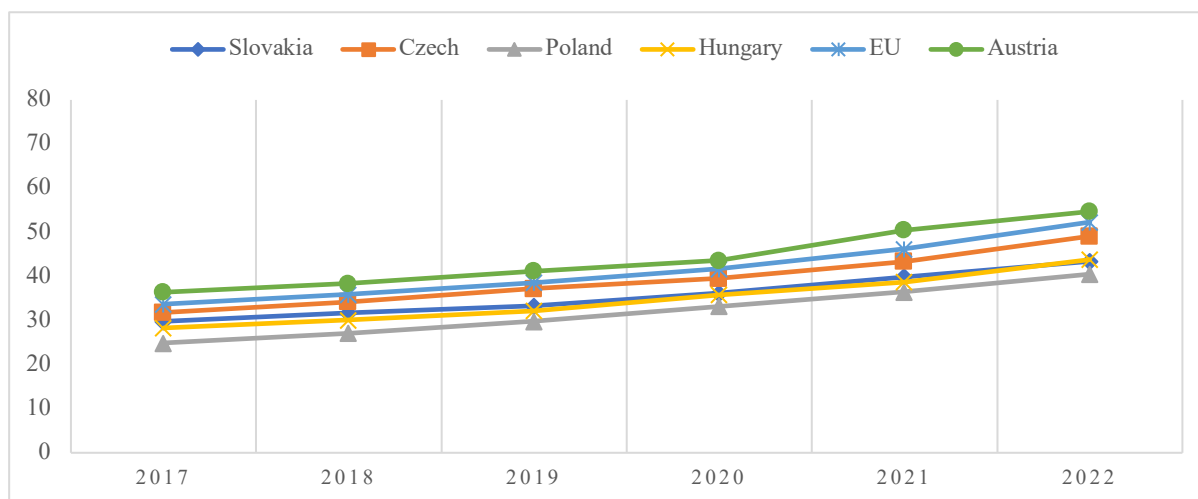
space is created for entrepreneurs to more easily cope with new digital opportunities emerging in the market.

4.1 The level of digitalization in the V4 countries based on the DESI index

Based on the Digital Economy and Society Index, the situation in V4 countries is at a relatively comparable level. The results for the period 2017-2022 are presented in Figure 1.

Figure 1

DESI Index in V4 countries, EU average, and Austria for the period 2017-2022



Source: Processed according to DESI – Compare countries progress. Available at: <https://digital-agenda-data.eu/> [20.11.2023].

In terms of the V4 countries, the Czech Republic consistently ranks at the highest level according to this index in all analyzed years. However, this is not sufficient concerning the EU average. In further analysis, we will also focus on comparing the V4 countries in relation to the advanced country - Austria, which is above the EU average. Conversely, Poland holds the worst position among the V4 countries in all observed years. The curves of Hungary and Slovakia almost overlap. In the last observed year, Hungary even achieved better values than Slovakia. It is positive that the differences between these countries are not as pronounced. In the following Table 1, we present the development pace of the DESI index for each country.

Table 1

The pace of development of the DESI index in the V4 countries, EU average, and Austria during the period 2017-2022

	2018/2017	2019/2018	2020/2019	2021/2020	2022/2021	Average
<i>Slovakia</i>	1,063758	1,050473	1,087087	1,102210	1,087719	1,078250
<i>Czechia</i>	1,075472	1,087719	1,061828	1,098734	1,131336	1,091018
<i>Poland</i>	1,088353	1,099631	1,114094	1,099398	1,109589	1,102213
<i>Hungary</i>	1,063604	1,069767	1,111801	1,081006	1,131783	1,091592
<i>EU average</i>	1,065282	1,075209	1,080311	1,107914	1,132035	1,092150
<i>Austria</i>	1,054945	1,072917	1,058252	1,158257	1,083168	1,085508

Source: own processing

Based on Table 1, we can observe that Poland has the fastest average growth rate of DESI index values (10.22%). Consequently, the country with the lowest DESI index values has been developing at the fastest pace over the last five years. Conversely, Slovakia has the slowest average growth rate (7.83%). If these countries maintain their level of average growth rate in

the coming years, Poland is projected to reach Slovakia's level in just under three years. Table 2 provides the year in which each country will achieve the maximum DESI index value (100) while maintaining the calculated average growth rate.

Table 2

DESI Index - the year in which countries will reach the maximum value of DESI index (100) while maintaining the average growth rate across all countries

	Year	Number of years
<i>Slovakia</i>	2033	11
<i>Czechia</i>	2031	9
<i>Poland</i>	2032	10
<i>Hungary</i>	2032	10
<i>EU average</i>	2030	8
<i>Austria</i>	2030	8

Source: own processing

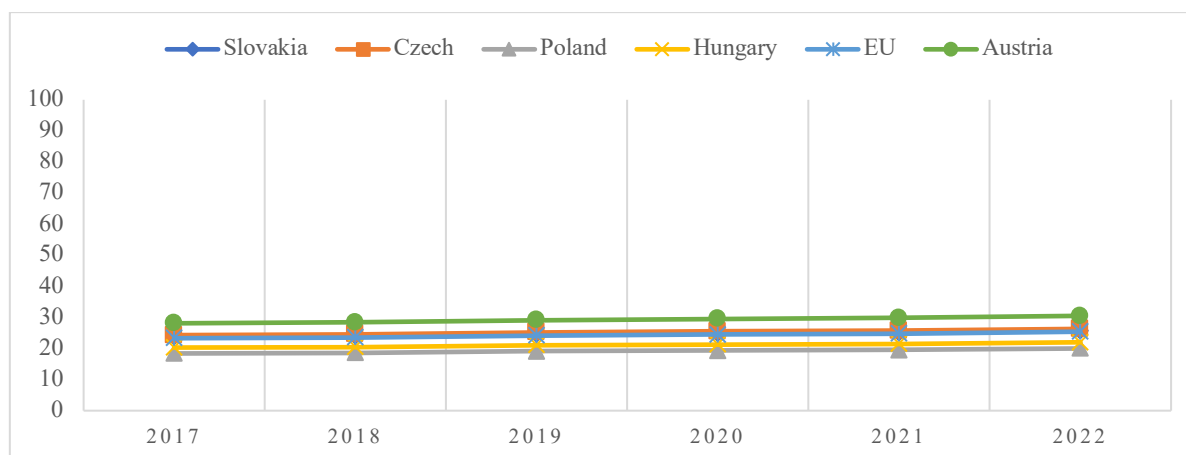
In the event that the V4 countries maintain the average growth rate of the DESI index from the last 5 observed periods, the worst scenario would occur in Slovakia, which would require 11 years to reach the maximum level of digitalization. While Poland and Hungary would need only 10 years, and the Czech Republic only 9. As a result, the V4 countries would not be able to catch up with the EU average or Austria. The pace of development of the EU average demonstrates that the EU is continually advancing in the field of digitalization, and it is crucial for countries currently below the EU average to achieve a higher growth rate than the EU average. Only in this way can they ensure that more developed countries will not constantly outpace them.

4.2 DESI - Human Capital pillar

Within this pillar of the DESI index, the skills of internet users and advanced skills, as well as their development, are monitored. The aim is to identify how people are prepared for the digital decade. The results for the V4 countries, the EU average, and Austria are presented in Figure 2.

Figure 2

DESI - Human Capital Pillar in V4 Countries, EU Average, and Austria for the Period 2017-2022



Source: Processed according to DESI – Compare countries progress. Available at: <https://digital-agenda-data.eu/> [20.11.2023].

From the provided graph, it can be observed that in this pillar, countries are divided into two groups. Czech Republic and Slovakia achieve values above the 21% threshold, while Hungary and Poland do not exceed 21% in any of the analyzed years. It is evident that differences in human capital skills are substantial in these countries. However, there are no significant year-on-year changes, so we can assume that the situation among the countries will not change significantly in the coming years. Compared to the EU, the Czech Republic is above the average, Slovakia is at the average, and Hungary and Poland are below the EU average.

Table 3 presents the development pace of human capital factor values during the observed period 2017-2022 in V4 countries.

Table 3

Development pace of the Human Capital factor in V4 countries, EU average, and Austria in the period 2017-2022

	2018/2017	2019/2018	2020/2019	2021/2020	2022/2021	Average
<i>Slovakia</i>	1,008403	1,025000	1,012195	1,008032	1,019920	1,014710
<i>Czechia</i>	1,012346	1,024390	1,011905	1,007843	1,023346	1,015966
<i>Poland</i>	1,010870	1,026882	1,010471	1,010363	1,025641	1,016845
<i>Hungary</i>	1,009852	1,029268	1,009479	1,009390	1,023256	1,016249
<i>EU average</i>	1,012876	1,025424	1,012397	1,012245	1,024194	1,017427
<i>Austria</i>	1,010676	1,024648	1,013746	1,010169	1,023490	1,016546

Source: own processing

The fastest growth rate of the Human Capital factor in the last five years is recorded on average in the EU. However, the values of the mentioned countries are relatively balanced, and the growth rate is comparable within human resources. Slovakia has the lowest average growth rate (1.4%). This means that if human capital in the field of digitization does not begin to develop in Slovakia, it will gradually lag behind not only the EU average but also all V4 countries.

Table 4 provides the year in which each country will reach the maximum value of the Human Capital factor index (100), maintaining the calculated average growth rate, if only the digitization of human capital was taken into account during the digitization of the country (the entire DESI index would consist of only this one indicator).

Table 4

DESI Index - the year when countries will reach the maximum level of digitalization while maintaining the average growth rate across all countries

	Year	Number of years
<i>Slovakia</i>	2116	94 rokov
<i>Czechia</i>	2107	85 rokov
<i>Poland</i>	2119	97 rokov
<i>Hungary</i>	2116	94 rokov
<i>EU average</i>	2102	80 rokov
<i>Austria</i>	2095	73 rokov

Source: own processing

Due to the low growth rate of digitization in human resources, the result is that V4 countries need approximately 100 years for complete digitization of human resources. The Czech Republic stands out more significantly, achieving maximum digitization of human capital 5 years later than the EU average. The best situation in this area is in Austria. Despite Hungary currently being below the level of Slovakia, these countries will achieve maximum digitization

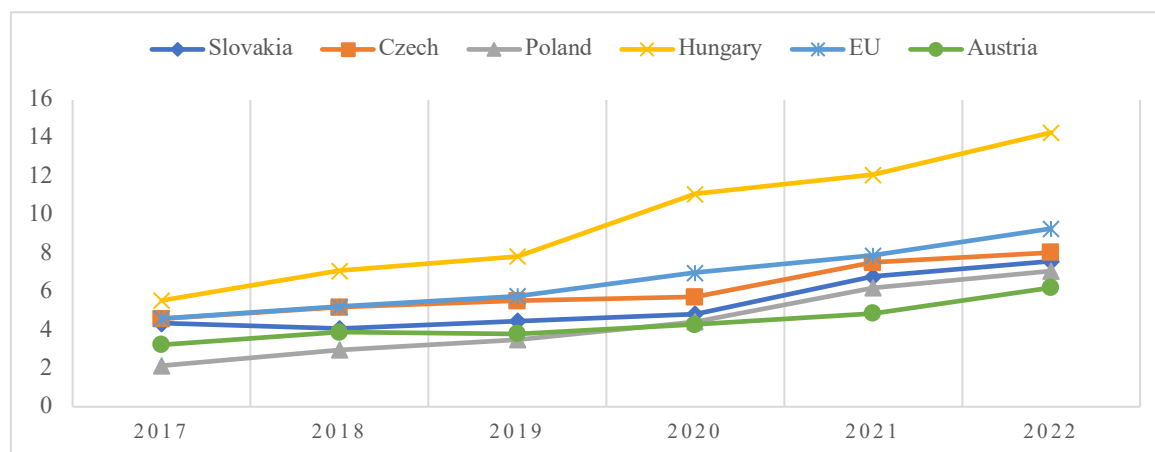
in the same year. In any case, it is necessary for the digitization process to accelerate throughout the EU.

4.3 DESI - Connectivity pillar

This pillar assesses the supply and demand for fixed and mobile broadband connections. The results for the V4 countries are presented in Figure 3.

Figure 3

DESI - Connectivity pillar in V4 Countries, EU Average, and Austria for the Period 2017-2022



Source: Processed according to DESI – Compare countries progress. Available at: <https://digital-agenda-data.eu/> [20.11.2023].

In the case of the connectivity pillar, the situation in the V4 countries is significantly different from the previous pillar. In 2017, the values of the countries were at a comparable level. Subsequently, however, the development in Hungary caused that currently, connectivity in Hungary is significantly above the level of the other three V4 countries. The values of Poland, Slovakia, and the Czech Republic are at a comparable level in 2022. In terms of connectivity, Hungary is well above the EU average, while the other countries are below it. An interesting finding is that Austria, as one of the leaders in the DESI index, is the weakest in terms of connectivity among the analyzed countries.

Table 5 shows the development pace of connectivity factor values during the period 2017 – 2022 in V4 countries.

Table 5

The pace of connectivity development in the V4 countries, EU average, and Austria during the period 2017-2022

	2018/2017	2019/2018	2020/2019	2021/2020	2022/2021	Average
<i>Slovakia</i>	0,937931	1,095588	1,082774	1,402893	1,117820	1,127401
<i>Czechia</i>	1,130719	1,063584	1,036232	1,316434	1,067729	1,122939
<i>Poland</i>	1,387850	1,178451	1,265714	1,399549	1,141935	1,274700
<i>Hungary</i>	1,279783	1,107193	1,414013	1,090090	1,181818	1,214580
<i>EU average</i>	1,136957	1,105163	1,211073	1,127143	1,177440	1,151555
<i>Austria</i>	1,204334	0,979434	1,123360	1,140187	1,272541	1,143971

Source: own processing

The growth rate of connectivity in the V4 countries varies. Czechia and Slovakia have an average growth rate of just under 13%, while Poland and Hungary have a growth rate above 20%. The high growth rate of these countries creates an opportunity for them to reach the EU

average level. Again, in this factor, Slovakia's pace is relatively low compared to the surrounding countries and their current level. In Table 6, we present the year in which each country will achieve the maximum value of the connectivity factor index (100), maintaining the calculated average growth rate. Even in this case, the fact that it is a situation where we would only evaluate the level of connectivity in the country, and we would not take into account the other factors of digitization.

Table 6

DESI Index - Connectivity - the year in which countries will achieve the maximum level of digital connectivity, maintaining the average growth rate across all countries

	Year	Number of years
<i>Slovakia</i>	2044	22 rokov
<i>Czechia</i>	2044	22 rokov
<i>Poland</i>	2033	11 rokov
<i>Hungary</i>	2032	20 rokov
<i>EU average</i>	2039	17 rokov
<i>Austria</i>	2043	21 rokov

Source: own processing

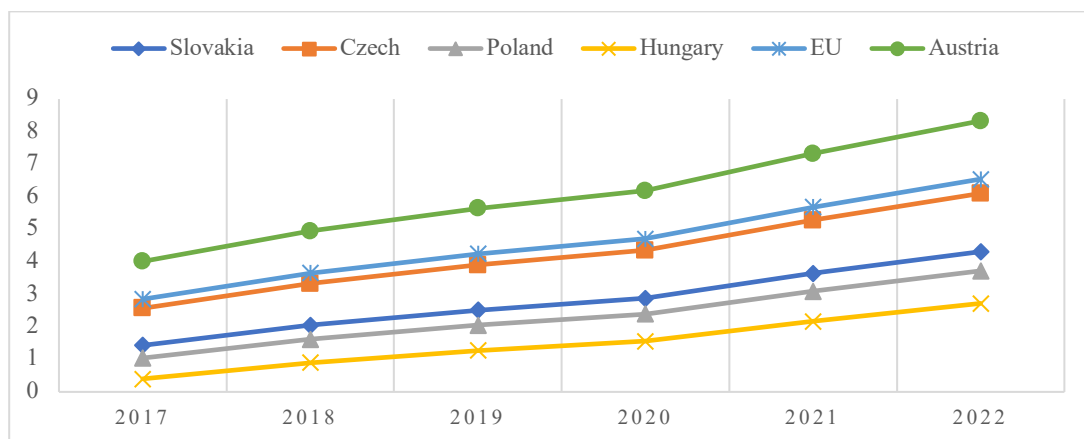
The growth rate of connectivity varies among individual countries, reflecting in the time required to reach the maximum level. The best situation is in Poland, where it takes only 11 years to achieve maximum connectivity, while in the EU, it is expected six years later. Other countries are at a comparable level (around 20 years) in terms of the time needed to reach the maximum level of connectivity.

4.4 DESI - Integration of Digital Technologies pillar

In this pillar, the integration of new technologies into businesses and e-commerce is assessed. The results are presented in Figure 4.

Figure 4

DESI - Integration of Digital Technologies pillar in V4 Countries, EU Average, and Austria for the Period 2017-2022



Source: Processed according to DESI – Compare countries progress. Available at: <https://digital-agenda-data.eu/> [20.11.2023].

Based on Figure 4, we can conclude that the integration of digital technologies is increasing over time in all countries. This is a result of the presence of digital technologies that are increasingly asserting themselves in the market. The best situation among the V4 countries is

in the Czech Republic, where, however, the growth rate of integration in the last five years is the lowest. Within this pillar, all countries still have room for improvement, as all four countries are below the EU average.

Table 7 provides the pace of development of the integration of digital technologies factor for the period 2017-2022 in the V4 countries.

Table 7

The pace of development of the integration of digital technologies in the V4 countries, EU average, and Austria in the period 2017-2022

	2018/2017	2019/2018	2020/2019	2021/2020	2022/2021	Average
<i>Slovakia</i>	1,433566	1,224390	1,147410	1,263889	1,184066	1,250664
<i>Czechia</i>	1,295720	1,171171	1,115385	1,213793	1,155303	1,190274
<i>Poland</i>	1,557692	1,265432	1,165854	1,292887	1,203883	1,297150
<i>Hungary</i>	2,241895	1,412681	1,228346	1,391026	1,253456	1,505481
<i>EU average</i>	1,280702	1,161644	1,110849	1,205945	1,151408	1,182110
<i>Austria</i>	1,231920	1,141700	1,095745	1,184466	1,137978	1,158362

Source: own processing

The most significant average growth rate in the integration of digital technologies is in Hungary (50%). Austria has the lowest average growth rate, creating an opportunity for the V4 countries to approach European elite levels. Simultaneously, in this factor, the V4 countries have a faster average growth rate than the EU average, providing an opportunity to get closer to the EU. In Table 8, we present the year in which each country will reach the maximum value of the Digital Technologies Integration factor index (100), maintaining the calculated average growth rate. Even in this case, the fact that it is a situation where we would only evaluate the level of connectivity in the country, and we would not take into account the other factors of digitization.

Table 8

DESI Index - Integration of Digital Technologies - the year in which countries will achieve the maximum level of digital connectivity, maintaining the average growth rate across all countries

	Year	Number of years
<i>Slovakia</i>	2037	15
<i>Czechia</i>	2039	17
<i>Poland</i>	2035	13
<i>Hungary</i>	2031	9
<i>EU average</i>	2039	17
<i>Austria</i>	2039	17

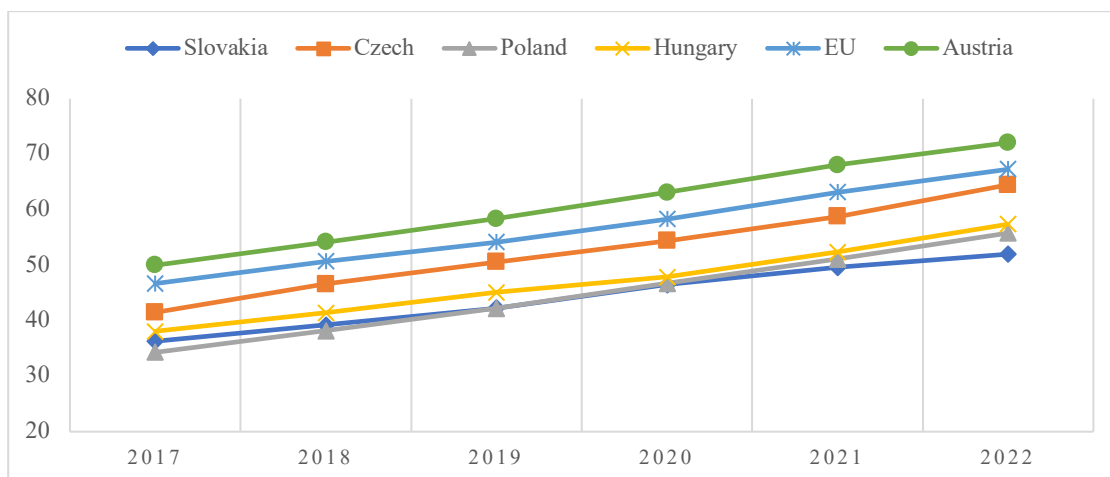
Source: own processing

Hungary has the fastest growth rate, so it will take only 9 years to reach the maximum level of integration of digital technologies. The Czech Republic will reach the maximum level in the same year as the EU average and Austria. Over the years, the V4 countries will gradually move slightly above or to the EU average level within this factor. Austria will gradually start falling behind.

4.5 DESI – Digital Public Services pillar

Within this pillar, the availability and provision of e-Government services in the country are evaluated. The results for the V4 countries, EU average, and Austria are presented in figure 5.

Figure 5
DESI - Digital Public Services pillar in V4 Countries, EU Average, and Austria for the Period 2017-2022



Source: Processed according to DESI – Compare countries progress. Available at: <https://digital-agenda-data.eu/> [20.11.2023].

The result of this pillar is particularly negative, especially for Slovakia, as it has started to lag behind other analyzed countries in recent years. On the other hand, the Czech Republic has once again confirmed the top position in this pillar. Similar to the pillar of integration of digital technologies, all countries in this pillar fall below the EU average.

Table 9 provides the pace of development of values for the digital public services factor during the observed period 2017-2022 in the V4 countries.

Table 9
Pace of development of digital public services in V4 countries, EU average, and Austria during the period 2017 - 2022

	2018/2017	2019/2018	2020/2019	2021/2020	2022/2021	Average
<i>Slovakia</i>	1,079890	1,079082	1,099291	1,066667	1,048387	1,074663
<i>Czechia</i>	1,122892	1,085837	1,075099	1,080882	1,096939	1,092330
<i>Poland</i>	1,113703	1,104712	1,106635	1,094218	1,091977	1,102249
<i>Hungary</i>	1,086614	1,089372	1,062084	1,093946	1,09542	1,085487
<i>EU average</i>	1,085653	1,069034	1,075646	1,084048	1,064873	1,075851
<i>Austria</i>	1,084000	1,077491	1,080479	1,079239	1,058737	1,075989

Source: own processing

In the case of the digitization of public services, Poland exhibits the highest average growth rate. However, differences within the V4 countries and the EU average are not significant. Nevertheless, the lowest average pace is once again observed in Slovakia. Table 10 presents the year in which each country will achieve the maximum value of the index for the digital technology integration factor (100), maintaining the calculated average growth rate. Even in this case, the fact that it is a situation where we would only evaluate the level of connectivity in the country, and we would not take into account the other factors of digitization.

Table 10

DESI Index - Digital Public Services – the year in which countries will reach the maximum level of digitization of public services, maintaining the average growth rate across all countries

	Year	Number of years
<i>Slovakia</i>	2032	10
<i>Czechia</i>	2028	6
<i>Poland</i>	2030	8
<i>Hungary</i>	2030	8
<i>EU average</i>	2028	6
<i>Austria</i>	2027	5

Source: own processing

At the average growth rate, the analyzed countries will achieve the maximum level of digital public services in a relatively short time. The worst situation is in Slovakia, where this maximization would take 10 years, which is 4 years longer than the EU average. Czechia will gradually reach the level of the EU average.

5 Discussion

The outcome of the analysis of the level of digitization in the V4 countries compared to the EU average and Austria, a country currently positioned as one of the leaders in digitization according to the DESI index, reveals that the V4 countries are currently lagging behind the EU average and Austria in most examined factors. The most favorable situation is currently observed in the Czech Republic across most factors, while the least favorable conditions are found in some factors in Poland and in other factors in Hungary. However, this situation may be entirely different in the future. In our analysis, we further considered the average pace of change in the values of individual factors within the DESI index. Based on the obtained results, we predicted the likely development of individual factors for each country in the upcoming period. Table 11 provides a summary of the country rankings in each DESI factor based on the average growth rate calculated over the last 5 years.

Table 11

Ranking of the V4 countries, EU average, and Austria based on the calculated average rate of change of individual factors of the DESI index

	Index DESI		Human Capital		Connectivity		Integration of Digital Technologies		Digital Public Services	
<i>Slovakia</i>	1,0782	6.	1,0147	6.	1,1274	5.	1,2506	3.	1,0746	6.
<i>Czechia</i>	1,0910	4.	1,0159	5.	1,1229	6.	1,1902	4.	1,0923	2.
<i>Poland</i>	1,1022	1.	1,0168	2.	1,2747	1.	1,2971	2.	1,1022	1.
<i>Hungary</i>	1,0915	3.	1,0162	4.	1,2145	2.	1,5054	1.	1,0854	3.
<i>EU average</i>	1,0921	2.	1,0174	1.	1,1515	3.	1,1821	5.	1,0758	5.
<i>Austria</i>	1,0855	5.	1,0165	3.	1,1439	4.	1,1583	6.	1,0759	4.

Source: own processing

Based on the provided summary table, it is evident that, if the average growth rate of individual factors in the DESI index is maintained, Slovakia will face the greatest challenge. Slovakia should focus on accelerating the pace of digitization across all DESI factors. The most problematic areas are the pace of digitization in human capital and public services. The integration of digital technologies has the most favorable pace, although it may not be entirely sufficient for the future, as Slovakia will be surpassed in this area by Poland and Hungary. Conversely, Poland shows a very good growth rate of individual DESI factors and is currently

the fastest digitizing country among those mentioned. Austria exhibits a relatively low growth rate, which may be attributed to certain factors being significantly more developed than in the V4 countries, leading to a decline in growth rate in recent years. In general, the V4 countries should focus on increasing the pace of digitization in the area of human resources, where the growth rate is only around 1.5% annually.

In terms of lessons for other countries or regions, the V4's experiences can offer valuable insights into the policies and initiatives that have effectively promoted digital advancement. Furthermore, the added value of these findings lies in better understanding the multifaceted impact of digitization on various aspects of a country's development, and how these insights can be utilized to inform and shape digital strategies in other areas.

1. Poland: Poland has made significant strides in areas such as internet use, human capital, and digital public services. Other countries may benefit from studying Poland's initiatives to improve access to digital technologies and enhance digital skills among its population.
2. Hungary: Hungary has shown progress in areas like connectivity and digital public services. Its experiences can provide valuable lessons on how to develop infrastructure and implement effective e-government solutions.
3. Czech Republic: The Czech Republic has excelled in internet connectivity and digital skills among its population. Its experiences can serve as a model for how to foster a digitally literate society and improve internet accessibility.
4. Slovakia: Slovakia has demonstrated strengths in areas such as e-commerce and digital public services. Its experiences can offer insights into how to leverage digital platforms for economic growth and enhance government service delivery.

Studying the specific initiatives and policies implemented by these V4 countries in their digital transformation journeys can indeed provide valuable lessons for other regions looking to enhance their own digital strategies and infrastructures.

6 Conclusion

Technological advancements and the increasing prominence of artificial intelligence are subjects garnering considerable attention in the discourse on societal functioning. The prevailing assumption for the upcoming years is that technology will continue its pervasive expansion across diverse sectors, thereby creating new avenues and opportunities for the advancement of business entities. Startups, with a predominant focus on IT services, are progressively taking center stage. However, the process of digital transformation necessitates not only organizational changes but also broader nationwide initiatives.

In our conducted analysis, we identified human capital and its qualification as the most challenging area across all four V4 countries. Artificial intelligence is gaining traction, particularly within the realms of IT services and the financial industry, with an emerging presence in smaller enterprises. Foreseeably, artificial intelligence is poised to exert a more substantial influence on various occupational roles in the near future. For instance, the traditional role of an accountant may soon be entirely supplanted by artificial intelligence proficient in accounting through learned algorithms. Consequently, it becomes imperative for young individuals to pursue creative and innovative career paths, fostering a symbiotic relationship between artificial intelligence and human capabilities, wherein the latter contributes to generating novel possibilities.

As such, countries must concentrate on adapting the existing educational system and refining the skills of educators as integral components of their digital transformation endeavors.

Presently, discernible disparities are not manifesting within the V4 countries. However, the pace of development in individual factors, as indicated by the DESI index, exhibits variability. Notably, Poland and Hungary are experiencing a considerably faster average growth rate in specific factors compared to Slovakia and, in certain aspects, even the Czech Republic. Consequently, the future trajectory suggests Slovakia may lag behind among the V4 countries and potentially within the broader EU context.

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Nachhaltiger Tourismus – wirtschaftliche Aspekte und Geschäftspraktiken in ausgewählten Ländern

Sustainable Tourism – Economic Aspects and Business Practices in Selected Countries

Tobias Barthelt – Peter Markovič – Martin Novysedlák

Abstract

The aim of the paper was to capture the state of connection between the circular economy and sustainability in the tourism sector, with an emphasis on the hotel industry, based on theoretical knowledge, practical experience and statistics. Based on a qualitative analysis of the content of empirical studies and documents (for the time window 2020-2024), including the results of similar research works, the state and perception of circularity and sustainability across generations and considering the general requirements of entrepreneurs and customers. The results of the research indicate diversity in the evaluation of sustainable tourism, which stems from the different ways of quantifying the level of sustainability in the country. It is confirmed that there are approaches that can gradually build sustainability, but there is a lack of sufficient pressure from clients to contribute to a greater selection of eco and non-eco devices. The shift in opinions between generations is noteworthy, which will lead to different client requirements in the future, a significant difference is noticeable between customers in Western Europe and Central/Eastern Europe.

JEL classification: Q 56, R 11, Z 32

Keywords: circular economy, energy efficiency, environmental protection, sustainability, tourism

1 Einleitung

Seit Beginn dieses Jahrtausends hat das Geschäftsumfeld mehrere bedeutende wirtschaftliche und politische Veränderungen erfahren, die die etablierten Verhaltensmuster der einzelnen Teilnehmer sowohl auf Seiten der Kunden als auch auf Seiten der Unternehmer selbst erheblich verändert haben. Eine Mischung aus disruptiven Ereignissen wie dem Platzen der Internetblase, der Finanz- und Hypothekenkrise, der Covid-Krise und dauerhaften militärischen Konflikten, kombiniert mit den sich verschlechternden Lebensbedingungen auf unserem Planeten, hat zur Aktivierung von Bewegungen geführt, die sich für eine stärkere Ökologisierung menschlicher Aktivitäten und die Nachhaltigkeit der Lebensbedingungen und -chancen einsetzen. Formulierungen, die in der Vergangenheit typisch für verschiedene Umweltbewegungen waren, jetzt aber an Substanz gewinnen und in Gesetzestexte Eingang finden, rücken in den Vordergrund. Zwei Begriffe sind Bestandteil der Untersuchung und das ist die Nachhaltigkeit und die Kreislaufwirtschaft.

Die Absicht der Verfasser ist es, einen genaueren Blick auf die Nachhaltigkeit durch die Linse der Tourismusbranche zu werfen, die einen wesentlichen Teil des menschlichen Lebens mit ihrer Geschäftstätigkeit ausfüllt, die darin besteht, das Bedürfnis nach Ruhe und Sozialisierung zu befriedigen. Anhand konkreter theoretischer Meinungen und praktischer Statistiken wird untersucht, inwiefern sich Nachhaltigkeit und Kreislaufwirtschaft in der Tourismusagenda widerspiegelt und wie in Zukunft ein Unternehmen geschaffen werden kann, dass viele Standards und Vorschriften erfüllt werden.

2 Der Stand der Problematik in der in- und ausländischen Literatur

2.1 Definitionen von Schlüsselbegriffen

Sustainability oder *Nachhaltigkeit* ist ein Konzept, das sich darauf konzentriert, die Bedürfnisse der heutigen Generation zu erfüllen, ohne die Fähigkeit künftiger Generationen zu gefährden, ihre Bedürfnisse mindestens auf dem gleichen Niveau wie heute zu erfüllen. Es geht darum, ökologische, ökonomische und soziale Aspekte zu integrieren, um langfristiges Wohlbefinden und natürliches Gleichgewicht zu gewährleisten. Im Hinblick auf die Zerlegung des Begriffs „Nachhaltigkeit“ und seine bessere Verknüpfung mit der Unternehmenspraxis sind folgende Formen der Nachhaltigkeit hervorzuheben:

- *Ökologische Nachhaltigkeit* – Schutz natürlicher Ressourcen und Ökosysteme, Sicherstellung ihrer Verfügbarkeit und Qualität für zukünftige Generationen. Dazu gehören der Kampf gegen den Klimawandel, die Verringerung der Umweltverschmutzung und der Schutz der biologischen Vielfalt.
- *Wirtschaftliche Nachhaltigkeit* – Förderung effizienter, innovativer und gerechter Wirtschaftssysteme, die in der Lage sind, langfristiges Wachstum und Wohlstand zu gewährleisten, ohne die natürlichen Ressourcen zu erschöpfen.
- *Soziale Nachhaltigkeit* – Gewährleistung von Fairness, Gleichheit und Lebensqualität für alle Menschen auf diesem Planeten. Dazu gehören der Zugang zu grundlegenden Dienstleistungen (Bildung, Gesundheitsversorgung), faire Lebens- und Arbeitsbedingungen.

Nachhaltigkeit ist also ein ganzheitliches Konzept, das die Zusammenarbeit zwischen Ländern, Regierungen, Unternehmen, Gemeinschaften und Einzelpersonen erfordert, um ein Gleichgewicht zwischen Wachstum, Umweltschutz und sozialer Gerechtigkeit zu finden.

Die Erfüllung der bisherigen Ideen spiegelt sich in verschiedenen Wirtschaftsmodellen wider, wobei zu beachten ist, dass es darunter diverse Teillösungen gibt, die sich nur auf ausgewählte Aspekte der Nachhaltigkeit konzentrieren und versuchen, diese bis ins letzte Detail zu bringen. Mit dem Aufkommen der neuen (institutionellen) Ökonomie und Volkswirtschaftslehre entwickeln sich umfassendere Ansätze, die ein breiteres Spektrum von Interessengruppen umfassen. Zu Beginn des 21. Jahrhunderts zeichnet sich allmählich der Zusammenhang *der Kreislaufwirtschaft* ab. Die Kreislaufwirtschaft ist ein Wirtschaftssystem, das darauf ausgelegt ist, Abfall zu minimieren und die Nutzung von Primär- und Sekundärressourcen zu maximieren. Ziel ist es, die Kreisläufe von Produkten, Komponenten und Materialien in der Wirtschaft zu schließen, um ihre Lebensdauer so weit wie möglich zu verlängern und ihren Wert zu erhalten. Im Gegensatz zum traditionellen linearen Modell des „Extrahierens, Herstellens, Verwendens, Werfens“ konzentriert sich die Kreislaufwirtschaft im engeren Sinne auf die Zirkulation von Materialien und Energie innerhalb der Wirtschaft durch Recycling, Wiederverwendung, Reparatur und andere Usability-Strategien. Zu den wichtigsten Prinzipien der Kreislaufwirtschaft gehören: (Tomassini et al., 2024)

- *Design für Langlebigkeit und Reparierbarkeit* – Produkte sind so konzipiert, dass sie langlebig, leicht zu reparieren und aufrüstbar sind. Dies trägt dazu bei, ihre Lebensdauer zu verlängern und den Bedarf an der Herstellung neuer Produkte zu verringern.
- *Recycling und Wiederverwendung* – Rohstoffe und Materialien werden recycelbar und wiederverwendbar gemacht, so dass ihr Kreislauf mehrfach wiederverwendet werden kann. Abfall wird zum Rohstoff für neue/ähnliche Produkte.

- *Erneuerbare Energiequellen* – Die Bevorzugung erneuerbarer Energiequellen verringert die Abhängigkeit von fossilen Brennstoffen, die den intensivsten CO₂-Fußabdruck aufweisen.
- *Sharing Economy und Dienstleistungen* – anstelle von Produkteigentum werden kollaborative oder individuelle Sharing-Modelle gefördert. Nach dem Prinzip „I use when I need“ werden Plattformen geschaffen, auf denen Angebot und Nachfrage nach einer bestimmten Dienstleistung aufeinandertreffen.
- *Biologische und technische Kreisläufe* – es wird unterschieden zwischen *biologischen Materialien* (die erneuerbar und biologisch abbaubar sind) und *technischen Materialien* (die ohne Qualitätsverlust recycelt und wiederverwendet werden sollen). Dies ist der komplizierteste Teil der Zirkulation, da er energieintensiv ist und derzeit nur unzureichend durch spezifische technische und technologische Lösungen unterstützt wird.

Durch die Verknüpfung der beiden definierten Begriffe – Nachhaltigkeit und Kreislaufwirtschaft – und die Hinzufügung einer sektoralen Charakteristik entsteht ein relativ neues Konzept, das Stärken und Schwächen, Chancen und Risiken kaschiert – *nachhaltiger Tourismus*. Diese Verbindung ist nicht zweckmäßig, sie soll einen Wandel in der Geschäftsphilosophie aufzeigen, der zu einer Veränderung der Wahrnehmung von ökonomischen, ökologischen und sozialen Aspekten im Dienstleistungssektor führen wird. Es handelt sich um einen komplexen Zyklus, der teilweise von Unternehmen beeinflusst wird, die sich in anderen Sektoren befinden – Lieferanten, Gläubiger, Kommunen. Jede der genannten Interessengruppen hat ihren eigenen CO₂-Fußabdruck und trägt damit zur Verschlechterung des CO₂-Fußabdrucks des Tourismus bei, gleiches gilt für die Zirkularität, aber besonders akut in Bezug auf Lieferanten.

2.2 Ausgewählte Aspekte des nachhaltigen Tourismus

Die Integration der Prinzipien der Kreislaufwirtschaft in die Tourismusbranche ist ein entscheidender Schritt in Richtung nachhaltigerer Praktiken und Ressourcenmanagement (Kiaušienė et al., 2024). Der Tourismussektor hat zwar Fortschritte bei der Anwendung von Modellen der Kreislaufwirtschaft erzielt, doch bedarf es eines kulturellen Wandels hin zu radikaler Nachhaltigkeit, um den aktuellen gesellschaftlichen Herausforderungen wirksam zu begegnen (De Martino et al., 2024). Untersuchungen deuten darauf hin, dass das Prinzip „Reduce-Repeat-Recycle“ (3R) hauptsächlich in Gastgewerbebetrieben angewendet wird, um Nachhaltigkeit zu fördern und die Ressourcennutzung zu optimieren (Kiaušienė et al., 2024). Eine umfassende Analyse der ökologischen und sozialen Faktoren bei der Tourismusentwicklung unterstreicht, wie wichtig es ist, Konzepte der Kreislaufwirtschaft zu verfolgen, um negative Auswirkungen zu mildern und die Wirtschaftsleistung zu steigern (Boyra et al., 2024) Darüber hinaus unterstreicht eine Studie die wachsende Zahl an Literatur, die sich auf die Schnittstelle von Prinzipien der Kreislaufwirtschaft und Tourismus konzentriert und Abfallmanagement und Recycling als Schlüsseldimensionen in diesem Diskurs hervorhebt (Kabil et al., 2024).

In der Tourismusbranche finden sich erhebliche Reserven in der Kreislaufwirtschaft in mehreren Schlüsselbereichen wie Abfallmanagement, Ressourceneffizienz und nachhaltige Lieferketten. Ein wesentlicher Bestandteil ist die Reduzierung und das Recycling von Abfällen, insbesondere im Beherbergungs- und Gaststättengewerbe, wo erhebliche Mengen an organischen und anorganischen Abfällen in wiederverwendbare Ressourcen umgewandelt werden können. Studien unterstreichen, wie wichtig es ist, umfassende Abfallbewirtschaftungspraktiken zu integrieren, die nicht nur die Deponienutzung reduzieren,

sondern auch neue wirtschaftliche Möglichkeiten durch das Recycling von Materialien wie Kunststoffen, Glas und Lebensmittelabfällen schaffen (Yusoff et al., 2022). Ein weiterer wichtiger Bereich ist die Energieeffizienz, wobei der Einsatz erneuerbarer Energiequellen und energiesparender Technologien in Hotels und touristischen Einrichtungen eine entscheidende Rolle bei der Reduzierung des CO₂-Fußabdrucks und der Betriebskosten spielt (Sánchez-Ollero et al., 2021). Darüber hinaus tragen Maßnahmen zur Wassereinsparung wie Regenwassernutzung und Grauwasserrecycling zu erheblichen Ressourceneinsparungen in wasserarmen Ländern bei. Die Implementierung nachhaltiger Lieferketten, die sich auf die lokale Beschaffung und die Reduzierung des CO₂-Fußabdrucks der transportierten Güter konzentrieren, ist ein weiterer Bereich, in dem erhebliche Reserven realisiert werden können. Dabei geht es um die Zusammenarbeit mit lokalen Produzenten und die Verwendung nachhaltiger Materialien in der Tourismusinfrastruktur. Digitale Innovationen unterstützen auch Praktiken der Kreislaufwirtschaft, indem sie den Ressourcenverbrauch und das Abfallmanagement durch fortschrittliche Datenanalysen und IoT-Technologien optimieren. Insgesamt verbessert die Integration von Prinzipien der Kreislaufwirtschaft im Tourismussektor nicht nur die ökologische Nachhaltigkeit, sondern fördert auch die wirtschaftliche Widerstandsfähigkeit und das Wohlergehen der Gemeinschaft (Garjan et al., 2023).

Die Kreislaufwirtschaft fördert die nachhaltige Entwicklung des Tourismus erheblich, indem sie die Ressourceneffizienz fördert, Abfall reduziert und die wirtschaftliche Widerstandsfähigkeit stärkt. Im Kern konzentriert sich die Kreislaufwirtschaft im Tourismus auf die Minimierung des Ressourcenverbrauchs und der Abfallerzeugung durch Praktiken wie Recycling, Wiederverwendung und die Verwendung nachhaltiger Materialien. Dieser Ansatz führt zu einer geringeren Umweltbelastung und trägt dazu bei, natürliche Ressourcen und Ökosysteme zu erhalten, die oft ein wesentlicher Bestandteil von Tourismuszielen sind (Cipolletta et al., 2022). Durch den Einsatz energieeffizienter Technologien und erneuerbarer Energiequellen können Tourismusunternehmen ihren CO₂-Fußabdruck und ihre Betriebskosten senken, was zu langfristiger Nachhaltigkeit und Rentabilität beiträgt. Darüber hinaus spielen Wassersparpraktiken wie Regenwassernutzung und Grauwasserrecycling eine entscheidende Rolle bei der Sicherstellung der Verfügbarkeit von Wasserressourcen in wasserarmen Regionen, was für die Nachhaltigkeit des Tourismusbetriebs von entscheidender Bedeutung ist (Lu et al., 2021). Die Kreislaufwirtschaft fördert auch die Entwicklung lokaler Lieferketten, reduziert Transportemissionen und unterstützt die lokale Wirtschaft durch die Beschaffung von Materialien und Produkten vor Ort. Dies stärkt nicht nur die wirtschaftliche Widerstandsfähigkeit der lokalen Gemeinschaften, sondern erhöht auch die Authentizität und Attraktivität des Tourismuserlebnisses durch die Integration der lokalen Kultur und Traditionen. Darüber hinaus fördert die Übernahme von Prinzipien der Kreislaufwirtschaft Innovationen und die Entwicklung neuer Geschäftsmodelle, wie z. B. Sharing-Economy-Plattformen und umweltfreundliche Tourismusprodukte, die der wachsenden Nachfrage nach nachhaltigen Reisemöglichkeiten gerecht werden (Dulgheru, 2023). Insgesamt bietet die Kreislaufwirtschaft der Tourismusbranche einen umfassenden Rahmen, um die Ziele der nachhaltigen Entwicklung zu erreichen, indem sie Wirtschaftswachstum mit Umweltverantwortung und sozialem Wohlergehen in Einklang bringt.

Die Kreislaufwirtschaft bringt zahlreiche wirtschaftliche Vorteile für die lokalen Gemeinschaften in Tourismusdestinationen, indem sie die Ressourceneffizienz verbessert, Arbeitsplätze schafft und das lokale Unternehmertum fördert. Durch die Fokussierung auf die Wiederverwendung, das Recycling und die Regeneration von Ressourcen senkt die Kreislaufwirtschaft die Kosten für die Abfallwirtschaft und schafft neue Geschäftsmöglichkeiten in der Recycling- und Upcycling-Industrie, die oft lokal ansässig ist. Dies führt zur Schaffung von Arbeitsplätzen in der Abfallwirtschaft, im Recycling und in der

Produktion nachhaltiger Güter und bietet stabile Beschäftigungsmöglichkeiten für die lokale Bevölkerung (Vargas-Sánchez, 2020). Darüber hinaus fördert die Kreislaufwirtschaft die lokale Beschaffung von Materialien und Produkten, was lokale Unternehmen unterstützt und die ökologischen und wirtschaftlichen Kosten im Zusammenhang mit Langstreckentransporten senkt. Dies stärkt nicht nur die lokale Wirtschaft, sondern sorgt auch dafür, dass mehr Geld, das von Touristen ausgegeben wird, in der Gemeinde bleibt, was die wirtschaftliche Widerstandsfähigkeit fördert (Dormady et al., 2022).

Darüber hinaus kann die Umsetzung der Prinzipien der Kreislaufwirtschaft zu Innovationen bei touristischen Dienstleistungen und Produkten führen, wie z. B. umweltfreundliche Unterkünfte und nachhaltige Reisepakete, die ein wachsendes Segment umweltbewusster Reisender anziehen können. Diese Innovationen können lokalen Unternehmen und Reisezielen Wettbewerbsvorteile verschaffen und möglicherweise zu höheren Tourismuseinnahmen führen. Die Kreislaufwirtschaft fördert auch den Erhalt und die nachhaltige Nutzung der lokalen natürlichen und kulturellen Ressourcen, die oft wichtige Anziehungspunkte für Touristen darstellen. Durch die Erhaltung dieser Ressourcen können Reiseziele eine langfristige Nachhaltigkeit des Tourismus und kontinuierliche wirtschaftliche Vorteile gewährleisten. (Dulgheru, 2023) Insgesamt trägt die Kreislaufwirtschaft nicht nur zur ökologischen Nachhaltigkeit bei, sondern fördert auch das Wirtschaftswachstum und die Widerstandsfähigkeit der lokalen Gemeinschaften und bietet eine solide Grundlage für eine nachhaltige Tourismusentwicklung.

3 Forschungsdesign

Ziel des Artikels ist es, die Konzepte der Nachhaltigkeit und der Kreislaufwirtschaft miteinander zu verbinden, im Tourismussektor zu domestizieren und auf dieser Grundlage unter Berücksichtigung der verfügbaren statistischen Daten das Niveau des nachhaltigen Tourismus in ausgewählten EU-Ländern zu bewerten. Die qualitative Studie basiert auf dem auf Basis von Web of Science- und Scopus-Quellen abgebildeten Wissensstandes, ergänzt durch Statistiken, die Nachhaltigkeit nach ausgewählten qualitativen und quantitativen Kriterien bewerten. Die Studie schließt mit Empfehlungen für die Hotellerie ab, wobei die derzeit geltende Gesetzgebung und die Empfehlungen der öffentlichen Meinungsmacher berücksichtigt werden.

Die zentrale Forschungsfrage lautet: „*Inwieweit ist Nachhaltigkeit in der Tourismusbranche mit einem Schwerpunkt auf Hoteliers domestiziert?*“ – wird in zwei Teilbereiche zerlegt:

- Welche wirtschaftlichen Vorteile bringt die Kreislaufwirtschaft für Hoteldestinationen?
- Welche Maßnahmen müssen Hoteleinrichtungen ergreifen, um sicherzustellen, dass ihre Tätigkeit Nachhaltigkeitsaspekten entspricht?

4 Forschungsergebnisse

In diesem Abschnitt werfen wir einen genaueren Blick auf verschiedene Evaluationsstudien und Statistiken, die sich mit dem Thema Nachhaltigkeit im Tourismus beschäftigen. Innerhalb der EU gibt es eine ganze Reihe von Meinungsmachern und Gutachtern, die sich mit diesem Thema beschäftigen. In Bezug auf die Datenverfügbarkeit ist zu beachten, dass es Studien gibt, die auf öffentlich zugänglichen Daten aus Pflichtberichten basieren, und es gibt auch Studien, die Auswahlziele festlegen (Forschungstichproben). Um die Meinungsvielfalt zu wahren, werden beide Ergebnisgruppen analysiert.

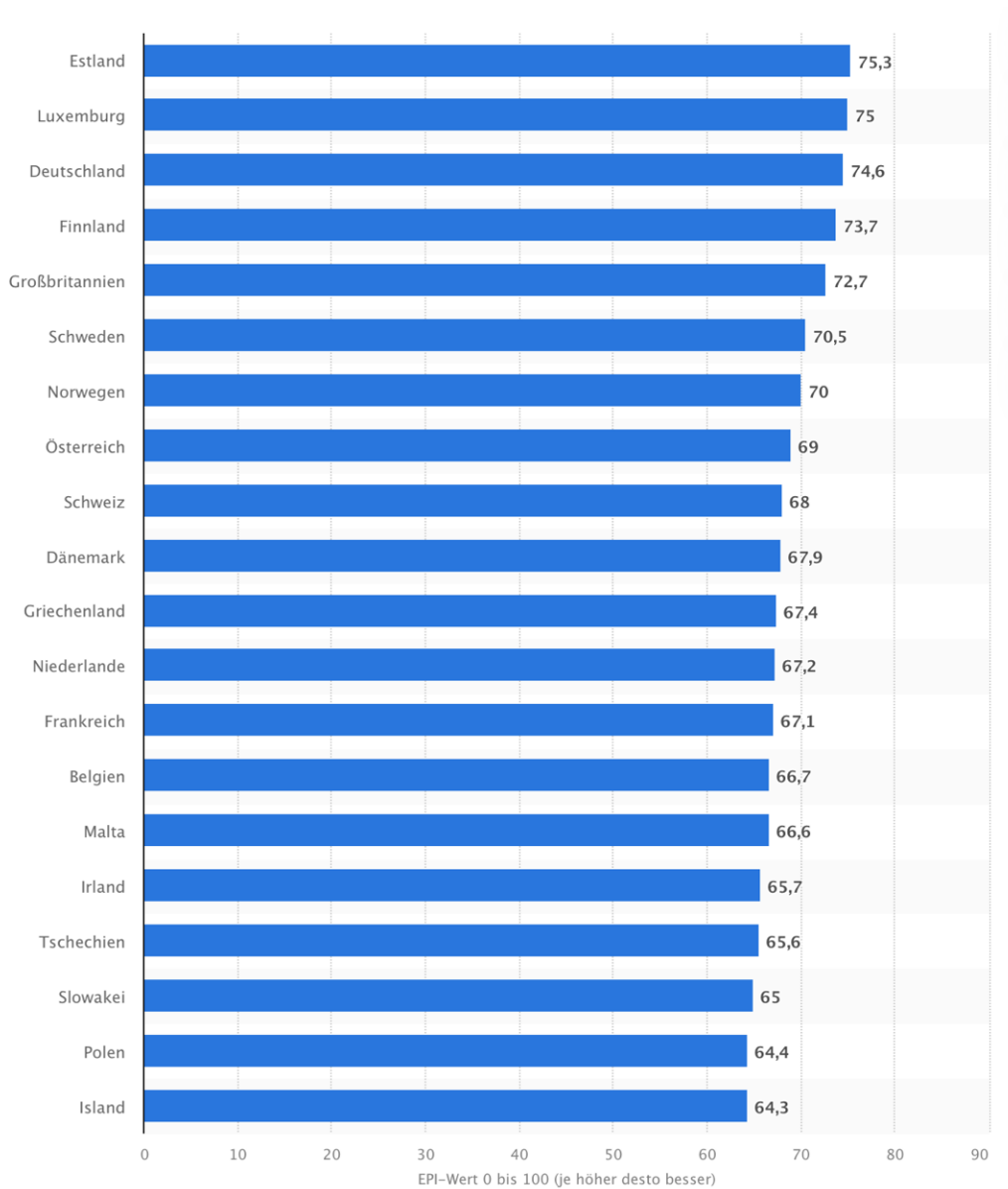
4.1 Statista

Dieser Index bewertet für jedes der 180 untersuchten Länder die ökologische Leistungsbilanz. Hierbei gilt ein Wert von „0“ als sehr schlechte ökologische Leistung sowie ein Wert von „100“ als sehr gute ökologische Leistung. Die Bewertung setzt sich zusammen aus drei Hauptindikatoren, denen elf Subkategorien und 58 Leistungsindikatoren zugeordnet werden.

Die Kategorie „Vitalität der Ökosysteme“ macht mit 45 % den größten Anteil am Environmental Performance Index (EPI) 2024 aus. Der Bereich „Klimapolitik“ ist für 30 % des EPI 2024 verantwortlich. Mit 25 % hat die Kategorie "Umwelt und Gesundheit" den geringsten Einfluss auf das Gesamtergebnis des Environmental Performance Index (EPI) 2024.

Abbildung 1

Rangliste der 20 umweltfreundlichsten Länder nach dem Environmental Performance Index (EPI) im Jahr 2024



Quelle: <https://de.statista.com/statistik/daten/studie/983991/umfrage/ranking-der-umweltfreundlichsten-laender-nach-dem-environmental-performance-index/>

In die Bewertung fließen auch Faktoren ein, die vom Tourismus selbst beeinflusst werden, wie Umweltverschmutzung, Wasserressourcen, Abwasser, Abfallwirtschaft.

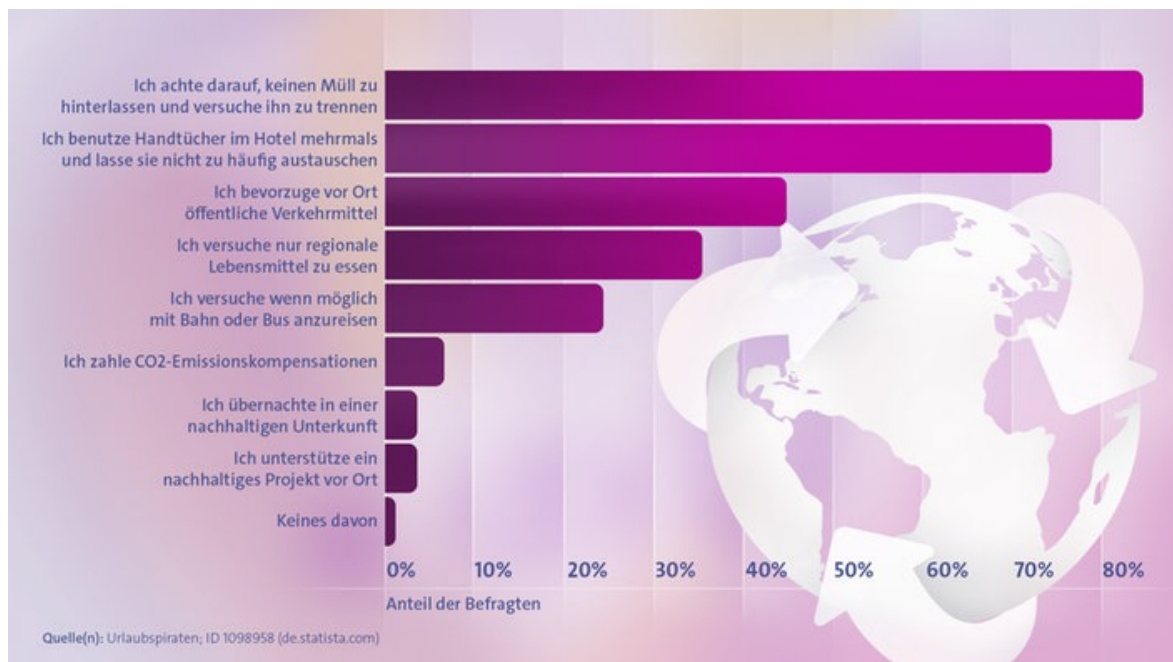
Die Einordnung einzelner Länder lässt in gewisser Weise erahnen, welche Nachhaltigkeitsdefizite auf gesamtstaatlicher Ebene bestehen, die sich in der Folge in unterschiedlicher Intensität in der Einhaltung von Standards in einzelnen Sektoren widerspiegeln.

4.2 Planet Wissen

Die Grafiken geben einen Einblick in einen kleinen Bereich der Reisebranche. Bei den Befragungen ist zu beachten, dass jeweils nur ein kleiner Teil der Bevölkerung teilgenommen hat. Sie sind daher nicht repräsentativ.

Abbildung 2

Umweltfreundliche Aktivitäten auf der Reise



Quelle: https://www.planet-wissen.de/gesellschaft/tourismus/nachhaltiges_reisen/pw-wb-nachhaltiges-reisen-zahlen-und-fakten-100.html#Treibhausgase

Die Reiseplattform „Urlaubspiraten“ hat mehr als 2000 ihrer Nutzer gefragt, welche umweltfreundlichen Taten sie auf Reisen bereits umsetzen. Die Ergebnisse zeigen, dass die Deutschen bereits recht umweltfreundlich unterwegs sind. Mehr als acht von zehn Personen achten darauf, im Urlaub keinen Müll zu hinterlassen und versuchen, ihn zu trennen. Drei von vier Befragten benutzen Handtücher im Hotel mehrmals, damit sie nicht täglich gewaschen werden müssen.

4.3 Avantio a Booking.com

Drei Jahre nach dem Ausbruch der weltweiten Pandemie ist der Tourismussektor auf dem besten Weg, sich zu etablieren. Mit dem Bemühen, die verlorene Zeit aufzuholen, hat sich ein neues Profil nachhaltiger Reisender herausgebildet, bei dem ökologische und ethische Erwägungen nun wichtige Faktoren bei der Reiseentscheidung sind. Tatsächlich planen 69% der Touristen, im Jahr 2023 nachhaltig zu reisen. (avantio online)

Basierend auf dem Bericht 2022, der von der Booking.com-Plattform erstellt wurde, in dem siebzehn SDG-Ziele bewertet und die folgenden Länder unter die ersten fünf eingestuft wurden: Finnland, Dänemark, Schweden, Norwegen und Österreich. Die oben genannten Ergebnisse sind nicht so überraschend, da die Einstellung der Bevölkerung zur Natur und den natürlichen Ressourcen allgemein bekannt ist. Aus diesem Bericht kann folgendes zitiert werden:

- 71 % der Reisenden gaben an, dass nachhaltiges Reisen für sie wichtig ist, und fast die Hälfte aller Befragten (42 %) gab an, dass die jüngsten Nachrichten über den Klimawandel sie dazu beeinflusst haben, nachhaltigere Reiseentscheidungen zu treffen.
- 25 % der Reisenden bestätigen, dass sie im vergangenen Jahr eine nachhaltige Unterkunft auf einer Online-Reiseseite gesehen haben, und 29 % geben an, dass sie vor der Buchung aktiv nach Informationen über die Nachhaltigkeitsbemühungen einer Unterkunft suchen.
- 33 % der Reisenden geben an, im vergangenen Jahr tatsächlich in einer nachhaltigen Unterkunft übernachtet zu haben.
- Fast ein Viertel (23 %) gibt an, dass sie sich für eine Reise an ein Reiseziel entschieden haben, das näher an ihrem Wohnort liegt, um ihren ökologischen Fußabdruck zu reduzieren, und 14 % der Reisenden gaben an, dass sie sich über öffentliche Verkehrsmittel und/oder Möglichkeiten zum Mieten eines Fahrrads an ihrem gewählten Reiseziel informiert haben. Fast jeder Fünfte (17 %) entschied sich auch dafür, längere Strecken mit dem Zug, statt mit dem Auto zurückzulegen, und ein Drittel (33 %) gibt an, dass sie sich schämen, wegen der Auswirkungen auf die Umwelt zu fliegen.

4.4 The Sustainable Development Report 2024

Ausgehend aus dem SDG-Index schätzen wir, dass nur etwa 16 % der SDG-Ziele auf dem richtigen Weg sind, um erreicht zu werden. Die restlichen 84 % weisen entweder begrenzte Fortschritte auf (unzureichend, um das Ziel bis 2030 zu erreichen) oder sogar eine Umkehrung der Fortschritte. Die Mehrzahl der Ziele, die besonders daneben liegen, beziehen sich auf Ernährungssysteme, Biodiversität, nachhaltige Landnutzung oder Frieden und starke Institutionen.

Abbildung 3
World SDG Dashboard 2024



Quelle: <https://s3.amazonaws.com/sustainabledevelopment.report/2024/sustainable-development-report-2024.pdf>

Abbildung 4
The 2024 SDG Index Ranks and Scores

<u>Rank</u>	<u>Country</u>	<u>Score</u>
1	Finland	86.4
2	Sweden	85.7
3	Denmark	85.0
4	Germany	83.4
5	France	82.8
6	Austria	82.5
7	Norway	82.2
8	Croatia	82.2
9	United Kingdom	82.2
10	Poland	81.7
11	Slovenia	81.3
12	Czechia	81.3
13	Latvia	81.0
14	Spain	80.7
15	Estonia	80.5
16	Portugal	80.2
17	Belgium	80.0
18	Japan	79.9
19	Iceland	79.5
20	Hungary	79.5
21	Slovak Republic	79.4
22	Switzerland	79.3
23	Italy	79.3
24	Netherlands	79.2
25	Canada	78.8

Quelle: <https://s3.amazonaws.com/sustainabledevelopment.report/2024/sustainable-development-report-2024.pdf>

Im Anhang kann man die spezifischen Ergebnisse der Slowakischen Republik im Detail sehen. Im Zusammenhang mit dem untersuchten Thema ist hervorzuheben, dass das Thema Nachhaltigkeit in diesem Bericht auf Länderebene beleuchtet wird und daher die Maßnahmen der höchsten Behörden in der Folge einen erheblichen Einfluss auf die Gesamtbewertung des Landes haben.

4.5 TravelPerk

Nachhaltiges Reisen und nachhaltiger Tourismus waren noch vor einigen Jahren eine Nische. Die Auswirkungen von Reisen auf die Umwelt und das Gemeinwesen für die weltweit Reisenden wirklich Priorität – Unternehmen und ihre Mitarbeiter sind umweltbewusster und wollen, dass ihre Reisen möglichst geringe negative Auswirkungen haben, die Covid-Pandemie hat dazu ihren hohen Beitrag geleistet. Welche Rückschlüsse können wir daraus ziehen?

- Die Pandemie brachte 61 % der Reisenden dazu, sich für nachhaltigere Reisemöglichkeiten zu entscheiden (Avantio).
- Reisen in der Business Class haben eine höhere CO₂-Bilanz, wobei auf Sitzplätze in der First Class ein viermal so hoher Verbrauch entfällt als auf die der Economy-Class (Greenbiz).
- Der Markt für nachhaltiges Reisen in der Geschäftsreise- und Tourismusbranche wird von 2021 bis 2025 voraussichtlich um 235,21 Milliarden \$ wachsen (Research and Markets).
- Weltweite Flüge produzierten 2019 bis zu 915 Millionen Tonnen CO₂ (Air Transport Action Group).
- Eine weltweite Umfrage aus dem Jahr 2020 hat ergeben, dass Reisenden der Generation Z (56 %) und der Millennials (51 %) nachhaltiges Reisen am wichtigsten ist. Die Gen X (49 %) und die Babyboomers (46 %) sind am wenigsten darum bemüht (Statista).
- 77 % der Reisenden zwischen 18 und 29 Jahren geben an, dass Nachhaltigkeit ihre Reiseentscheidungen beeinflusst, verglichen mit 48 % der Reisenden ab 51 Jahren (Travel Agent Central). (TravelPerk)

Bei der Reiseplanung werden mehrere Punkte berücksichtigt, von der Art der privaten und öffentlichen Verkehrsmittel, die genutzt wird, bis hin zur Frage, wo das Übernachten ein wird und wo es bestellt werden kann. Das Gastgewerbe hat einen großen Einfluss auf die Art und Weise, wie wir uns um die Umwelt und die Gesellschaft kümmern – dieser Bereich ist nämlich für 21 % des gesamten ökologischen Fußabdrucks der Tourismusbranche verantwortlich. Und das kann man folgendes vorlegen:

- Gäste von Hotels und anderen Mietunterkünften sind bereit, bis zu 75 % mehr für eine umweltfreundliche Option zu bezahlen (Operto).
- 73 % der Reisenden entscheiden sich eher für Unterkünfte, die für ihre Nachhaltigkeitspraktiken werben (Avantio).
- Bis zu 32 % der Reisenden sagen, dass die Anbieter von Unterkünften Informationen zu Ökosystemen, Erbe, Kultur und zur Touristen-Etikette des jeweiligen Reiseziels anbieten sollten (Booking.com).
- 27 % der Reisenden geben an, dass sie die Möglichkeit bevorzugen, die tägliche Zimmerreinigung abzulehnen, um so den Wasserverbrauch zu reduzieren (Booking.com).
- 27 % der Reisenden würden gerne Mehrweg-Teller und Mehrweg-Besteck für die Mahlzeiten und den Zimmerservice nutzen, um Einweg-Kunststoffe zu reduzieren (Booking.com).
- Bis zu 40 % der Reisenden wollen, dass die Buchungsseiten angeben, welche ihrer Unterkünfte nachhaltig sind (Avantio).
- 37 % der Reisenden wünschen sich eine Filteroption, die die Entscheidung für den Aufenthalt in einer nachhaltigen Unterkunft erleichtert (Avantio).
- Untersuchungen haben ergeben, dass die Hotelbranche ihre Kohlenstoffemissionen bis 2030 um 66 % je Zimmer und bis 2050 um 90 % je Zimmer reduzieren müsste, um sicherzustellen, dass das für die Branche prognostizierte Wachstum nicht zu einem Anstieg ihrer Kohlenstoffemissionen führt (Sustainable Hospitality Alliance). (TravelPerk)

4.6 Travel Agent CENTRAL

Bei der Untersuchung der Auswirkungen von Nachhaltigkeit auf das Konsumverhalten zählt diese Interessengruppe schließlich den gesamten Aufwand des Unternehmens am Ende der Kette, der Generationenrahmen wurde in den letzten Jahren stärker befolgt. Der Generationenunterschied zeigt sich nicht nur in den technischen Fähigkeiten, die am meisten diskutiert werden, sondern auch in der Einstellung zum Leben, zum Besitz von Dingen und zur Nutzung der Freizeit. Da die Etablierung von Nachhaltigkeit ein langfristiger Prozess ist und nur für bestimmte Generationen Veränderungen in den Verbraucherpräferenzen mit sich bringen wird, wird es wahrscheinlich angemessener sein, sich auf die Millennials (Generation Alpha) zu konzentrieren.

Millennials erwarten von Reiseunternehmen, dass sie sozial bewusste Reisemöglichkeiten anbieten:

- 86 % der 18- bis 29-Jährigen legen Wert darauf, bei der Buchung einer Reise für ein Unternehmen nachhaltige Reisemöglichkeiten anzubieten.
- 90 % der 18- bis 29-Jährigen halten das Engagement eines Reiseunternehmens für ethisches Reisen bei der Buchung einer Reise für wichtig.
- Die 18- bis 29-Jährigen sind am ehesten der Meinung, dass Reiseunternehmen eine größere Verantwortung für nachhaltige Erlebnisse haben.

Millennials ist es wichtig, wie sie ihr Geld ausgeben:

- Die beiden Dinge, die 18- bis 29-Jährige bei der Buchung von Reisen für am wichtigsten halten, sind die Erschwinglichkeit (52 %) und das Wissen, dass sie mit ihren Reisegeldern lokale Gemeinschaften unterstützen (51 %).
- 86 % der 18- bis 29-Jährigen sind bereit, mehr für ihre Reisen auszugeben, wenn dies bedeutet, dass die enthaltenen Erlebnisse völlig ethisch vertretbar sind.
- Der Hauptgrund, warum 18- bis 29-Jährige einen Urlaub bei demselben Unternehmen buchen, mit dem sie bereits gereist sind, ist, dass sie das Gefühl haben, dass ihr Geld in ein wirklich lokales und immersives Erlebnis investiert wird. (Travel Agent Central)

4.7 Underdog Traveling

Im letzten Absatz der analytischen Arbeit ist es auch notwendig, die Gesamtstatistiken der zukünftigen Entwicklung darzustellen, da sie die Dynamik der kommenden Jahre anschaulich darstellen.

- Die Größe des Ökotourismus-Marktes wird auf 247 Milliarden US-Dollar geschätzt und wächst mit einer durchschnittlichen jährlichen Wachstumsrate von 12,9 %.
- 81 % der Reisenden geben an, dass Nachhaltigkeit für sie wichtig ist, wenn sie reisen.
- 41 % der Befragten wissen nicht, wo sie nach nachhaltigen Angeboten suchen können, und 47 % wären offen für Ratschläge für nachhaltiges und budgetfreundliches Reisen.
- 62 % der Umfrageteilnehmer sind bereit, mehr für umweltfreundliche Angebote zu zahlen.
- 30 % der Reisenden empfinden eine gewisse Scham, wenn sie zu einem Urlaubsziel fliegen, wegen der negativen Auswirkungen, die Flugzeuge auf die Umwelt haben.

Abbildung 5
Sustainable Travel Index – Year 2022

Country	Rank 2022	Rank Change 2021/2022	Rank Change 2017/2022
Sweden	1	→ 0	↑ 1
Finland	2	↑ 1	↑ 1
Austria	3	↓ -1	↑ 2
Estonia	4	↑ 5	↑ 3
Norway	5	↑ 1	↓ -1
Slovakia	6	↓ -1	↓ -5
Slovenia	7	↓ -3	↓ -1
Iceland	8	→ 0	→ 0
Latvia	9	↑ 1	↑ 1
Switzerland	10	↓ -3	↑ 2
France	11	→ 0	↓ -2
Lithuania	12	→ 0	↑ 1
Denmark	13	→ 0	↓ -2
Czech Republic	14	→ 0	↑ 2
Germany	15	→ 0	↓ -1
Portugal	16	↑ 1	↑ 6
Croatia	17	↑ 3	↑ 1
Uruguay	18	↑ 15	↑ 17
Romania	19	↓ -3	↑ 7
Poland	20	↓ -1	↑ 9

Quelle: <https://www.euromonitor.com/press/press-releases/august-2023/travellers-will-pay-10-extra-for-sustainable-travel-despite-cost-of-living-crisis-euromonitor-report>

Abschließend lässt sich festhalten, dass der Tourismus in Sachen Nachhaltigkeit am Scheideweg steht. Auf der einen Seite wächst der Druck, den CO₂-Fußabdruck aller Stakeholder zu reduzieren, auf der anderen Seite führt die Erhöhung des Lebensstandards zu einer höheren Bereitschaft der Kunden, für Dienstleistungen, die ihrem Wertesystem entsprechen, mehr zu bezahlen.

5 Diskussion

Unabhängig von der Spezifität der Teilbereiche der Forschung kämpft die Wirtschaftsforschung im Allgemeinen mit zwei Tendenzen. Auf der einen Seite ist es die Modefähigkeit von Konzepten und Konstrukten, die dazu führt, dass die derzeit am meisten diskutierten Konzepte erforscht werden, ihnen wirtschaftliche Bedeutung zugeschrieben und ihre ökonomischen Auswirkungen übertrieben werden. Auf der anderen Seite ist es ein kritisches Hinterfragen von Maßnahmen, die keinen wirtschaftlichen Wert bringen bzw. bringen. Sie führen zum Abfluss wirtschaftlicher Ressourcen, ohne dass dies angemessen berücksichtigt wird. Das Studium der Nachhaltigkeit kann im Rahmen dieser Forschungen leicht auf beiden Seiten einbezogen werden – es ist ein permanent ausgehandeltes Konzept, das, wenn es strikt eingehalten wird, zur wirtschaftlichen Zerstörung der Gemeinschaft führt. Es gibt aber auch ein höheres Interesse, und die damit verbundene Notwendigkeit, Leben zu erhalten, was den wirtschaftlichen Aspekt zwangsläufig in den Hintergrund rückt. Die goldene Mitte sollte daher wie folgt aussehen – eine wirtschaftlich nachhaltige Umwelt zu schaffen, die Verschwendung, Überproduktion und sinnlosen Konsum (verursacht durch künstliche Schaffung von Angebot) vermeidet. Dies ist eine äußerst schwierige Änderung des

wirtschaftlichen Denkens, denn sie bedeutet eine Abkehr von der von Adam Smith vorgestellten Idee des Marktes, der alle Probleme lösen wird und die unsichtbare Hand dieses Marktes zu einem allgemeinen Gleichgewicht führen wird.

Im Kontext der Nachhaltigkeit in der Hotellerie kann sie im weiteren Sinne in die Tourismusbranche synthetisiert werden, die wirtschaftliche Seite ist das A und O – die Einführung der Zirkularität bei ausgewählten Dienstleistungen kann sich in einem begrenzten Angebot dieser Dienstleistungen mit ihrem höheren Verkaufspreis widerspiegeln. Das Problem liegt auf der Seite des Kunden, der den nachhaltigen Tourismus sicherlich begrüßen wird, aber unter Beibehaltung des aktuellen Preisniveaus – diese widersprüchliche Haltung macht sich auch in anderen Geschäftsbereichen bemerkbar und wird als natürlicher Egoismus bezeichnet – ist der Kunde an Ökologie interessiert, aber nur so lange, bis er nicht mehr dafür bezahlen muss.

Wie sieht also die Realität aus? Hotels setzen eine Vielzahl von Maßnahmen um, um nachhaltiger zu werden, und konzentrieren sich dabei auf die Reduzierung des ökologischen Fußabdrucks, die Förderung der Ressourceneffizienz und die Unterstützung der lokalen Gemeinschaften. Eine zentrale Maßnahme ist die Implementierung umfassender Abfallmanagementsysteme, die Recycling, Kompostierung von organischen Abfällen und die Reduzierung von Einwegkunststoffen beinhalten. Diese Strategien minimieren nicht nur die Umweltbelastung, sondern senken auch die Betriebskosten (Yusoff et al., 2022). Energieeffizienz spielt ebenfalls eine entscheidende Rolle, wobei Hotels auf erneuerbare Energiequellen wie Solaranlagen und energiesparende Geräte setzen, um den CO₂-Ausstoß zu verringern. Zusätzlich werden Maßnahmen zur Wassereinsparung wie wassersparende Armaturen, Regenwassernutzung und Grauwasserrecycling eingesetzt, um den Wasserverbrauch zu minimieren, besonders in Regionen mit Wasserknappheit (Lu et al., 2021).

Ein weiterer wichtiger Aspekt ist die lokale Beschaffung und die Förderung nachhaltiger Lieferketten, bei denen Hotels lokale Produkte und Dienstleistungen nutzen, um den regionalen Wirtschaftskreislauf zu unterstützen und Transportemissionen zu reduzieren. Diese Praxis fördert nicht nur die wirtschaftliche Nachhaltigkeit der Region, sondern integriert auch kulturelle und regionale Authentizität in das touristische Erlebnis (Garjan et al., 2023). Um die Gäste zu sensibilisieren und einzubeziehen, setzen Hotels auf Aufklärungskampagnen und umweltfreundliche Aktivitäten, die eine Kultur der Nachhaltigkeit fördern. Zertifizierungen und Ökolabels helfen Gästen, nachhaltigere Entscheidungen zu treffen und stärken gleichzeitig das Image von Hotels, die sich zu umweltfreundlichen Praktiken verpflichten. Die Nutzung digitaler Technologien wie Datenanalytik und das Internet der Dinge (IoT) kann die Ressourcennutzung optimieren und die Effizienz der Betriebsabläufe weiter steigern, was nachhaltige Praktiken unterstützt. Schließlich spielen öffentliche-private Partnerschaften und unterstützende Regierungsrichtlinien eine wichtige Rolle, indem sie die erforderlichen Anreize und regulatorischen Rahmenbedingungen schaffen, um nachhaltige Praktiken in der Hotellerie zu fördern.

Gäste spielen eine entscheidende Rolle bei der Förderung der Nachhaltigkeit in Hotels auf verschiedene Weisen:

- Nachhaltige Entscheidungen: Gäste können durch die Auswahl umweltfreundlicher Hotels, die nachhaltige Praktiken anwenden, dazu beitragen, dass solche Einrichtungen weiterwachsen. Die Nachfrage nach nachhaltigen Optionen beeinflusst die Entscheidungen der Hotelbranche.

- Verhalten während des Aufenthalts: Gäste können aktiv nachhaltige Praktiken fördern, indem sie beispielsweise Handtücher und Bettwäsche sparen, das Licht und die Klimaanlage ausschalten, wenn sie das Zimmer verlassen, und lokale Produkte und Dienstleistungen in Anspruch nehmen.
- Rückmeldungen geben: Durch Bewertungen und Feedback können Gäste Hotels informieren, welche nachhaltigen Praktiken sie schätzen oder welche Verbesserungen sie vorschlagen würden. Dies kann den Hotels helfen, ihre Angebote zu optimieren.
- Teilnahme an Programmen: Viele Hotels bieten Programme an, wie z.B. Pflanzen von Bäumen oder die Unterstützung lokaler Gemeinden. Gäste, die sich an solchen Programmen beteiligen, tragen direkt zur Nachhaltigkeit bei.
- Bewusstsein schaffen: Gäste können auch außerhalb des Hotelaufenthalts über ihre Erfahrungen berichten und das Bewusstsein für die Bedeutung nachhaltiger Praktiken in der Reisebranche schärfen, was zu einer größeren gesellschaftlichen Veränderung beitragen kann.

Insgesamt sind Gäste wichtige Partner in der Umsetzung von Nachhaltigkeitsstrategien in der Hotellerie. Nichtsdestotrotz, Hotels stehen bei der Umsetzung nachhaltiger Maßnahmen vor verschiedenen Herausforderungen, darunter:

- Kosten – die Implementierung nachhaltiger Praktiken kann hohe anfängliche Investitionen erfordern, beispielsweise für energieeffiziente Technologien, nachhaltige Materialien oder Abfallmanagementsysteme, die sich nicht immer sofort auszahlen.
- Schulung des Personals – es ist wichtig, dass das Personal geschult wird, um nachhaltige Praktiken zu verstehen und anzuwenden. Dies erfordert Zeit und Ressourcen, und es kann schwierig sein, alle Mitarbeiter konsequent zu schulen.
- Gästewartungen – Gäste haben unterschiedliche Erwartungen an ihren Aufenthalt, und nicht alle sind bereit, Abstriche bei Komfort oder Annehmlichkeiten in Kauf zu nehmen, um nachhaltige Praktiken zu unterstützen.
- Lieferkette – die Beschaffung nachhaltiger Produkte und Materialien kann eine Herausforderung darstellen. Oftmals gibt es nur begrenzte Verfügbarkeiten oder höhere Preise, und die Lieferantenauswahl kann stark eingeschränkt sein.
- Regulatorische Anforderungen – in einigen Regionen gibt es komplexe Vorschriften und Standards bezüglich Nachhaltigkeit, die Hotels einhalten müssen. Da diese Regelungen variieren können, kann die Navigation durch solche Anforderungen herausfordernd sein.
- Technologische Integration – die Implementierung neuer Technologien zur Verbesserung der Nachhaltigkeit, wie etwa energieeffiziente Systeme oder intelligente Gebäudeverwaltung, kann technisch komplex und kostspielig sein.
- Markenimage und Marketing – Hotels müssen sicherstellen, dass ihre nachhaltigen Praktiken authentisch sind, um Greenwashing zu vermeiden. Gleichzeitig sollte das Marketing diese Praktiken effektiv kommunizieren, um auf umweltbewusste Reisende abzielen.
- Mangel an Standard – es gibt oft keine einheitlichen Standards oder Zertifizierungen für nachhaltige Praktiken in der Hotellerie, was es schwieriger macht, Erfolge zu messen und sich in der Branche abzugrenzen.

Diese Herausforderungen erfordern von Hotels eine strategische Planung und ein starkes Engagement, um effektiv nachhaltige Maßnahmen umzusetzen.

Die zentrale Forschungsfrage lautet: Inwieweit ist Nachhaltigkeit in der Tourismusbranche mit einem Schwerpunkt auf Hoteliers domestiziert? – Es kann festgestellt werden, dass nach

und nach Destinationen entstehen, in denen ausgewählte Einrichtungen versuchen, die Ökologisierung voranzutreiben. Auslöser dafür war zum einen die Energiekrise der Jahre 2022 und 2023, zum anderen die Erkenntnis, dass es keine Alternativen zu einer umweltfreundlicheren Behandlung gibt. In westeuropäischen Ländern gibt es, wie Statistiken und Bewertungen belegen, eine höhere Intensität des Aufbaus von Kreislaufsystemen, die zum Teil durch finanzielle Subventionen, aber natürlich auch durch die Bereitschaft der Kunden unterstützt wird, höhere Preise für solche Dienstleistungen zu zahlen. Im Hinblick auf das Management nicht ausgewählter Generationen kann Zirkularität nicht nur eine Frage des Prestiges (Reputation) sein, sondern auch zur Schaffung eines spezifischen Segments mit einer bestimmten Kundschaft führen, die ein höheres Maß an Loyalität zeigt. Gleichzeitig skizzierte das Papier eine Reihe von Schritten und Maßnahmen, die Hoteleinrichtungen ergreifen müssen, wenn sie den Weg der Nachhaltigkeit und Zirkularität gehen wollen. Natürlich muss der Grundsatz der Wirtschaftlichkeit und der Wirtschaftlichkeit beachtet werden, was es natürlich nicht erlaubt, alle Maßnahmen zu ergreifen, die in der Theorie oder in Laborstudien vorgeschlagen werden. Aber selbst kleine Schritte, die an einer Vielzahl von Geschäftseinheiten unternommen werden, können im Vergleich zu absoluter Passivität effektiver sein. Zum Schluss vielleicht noch ein paar Tipps, die mit wenig Aufwand ein schnelles Ergebnis bringen können:

- Umweltschonende Reinigung im Hotel. Wäsche-Wechsel im Hotel. Zimmerreinigung abbestellen (Reinigen nur auf Wunsch des Kunden).
- Beleuchtung im Hotel (LED-Leuchtmittel). Im Hotel effizient heizen und kühlen.
- Wassersparende Duschköpfe und Perlatoren im Hotelzimmer.
- Recycling und Müllvermeidung im Hotel (Speisereste fachgerecht entsorgen).
- Reinigung, Wartung und Standortwahl von Geräten.
- Überzeugen Sie Ihre Mitarbeiter (Begeistern Sie Ihr Personal für Nachhaltigkeit).
- Kommunizieren Sie den Umweltschutz im Hotel. (Betterspace)

Schlussfolgerung

Aus der theoretischen Forschung und den verfügbaren Statistiken lässt sich ableiten, dass das Thema Nachhaltigkeit im Tourismus relativ intensiv kommuniziert wird und Good-Practice-Beispiele zeigen, wie sich das Verhalten einzelner Interessengruppen nach und nach verändert. Genauso wie wir keine 100 % Zirkularität erreichen können, werden wir natürlich auch keine 100 % Nachhaltigkeit erreichen. Unsere Bemühungen sollten auf eine schrittweise Annäherung an einen bestimmten absoluten Wert gerichtet sein, wobei die wirtschaftlichen und finanziellen Grundsätze zu beachten sind und ein gewisser Standard beibehalten wird.

Die Begrenzung der vorgestellten Forschung liegt in der globalen Konzeption des Themas, so dass es in der Folgeforschung angebracht wäre, sich auf die kritischen Teile des Tourismussektors zu konzentrieren, in denen das höchste Nachhaltigkeitsdefizit besteht, und die Grenzen der Einführung neuer Regulierungen (z.B. SGB, SDG) konsequenter mit quantitativer Forschung zu quantifizieren. Eine tiefere Betrachtung des CO₂-Fußabdrucks zeigt eine starke Zusammenarbeit zwischen der Tourismusbranche und anderen Sektoren, was wiederum zu Spillover-Effekten des CO₂-Fußabdrucks führt – z.B. Bauunternehmen, Lebensmittelproduzenten, Energieversorger, Verkehr (Transport von Touristen) usw. Die Hotellerie ist ein Beispiel für eine Synthese der negativen Auswirkungen mehrerer Branchen, aber sie kann ihr Problem nicht ohne die Zusammenarbeit mit ihren Lieferanten und Kunden lösen.

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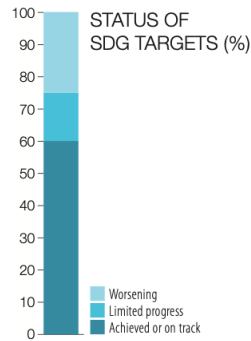
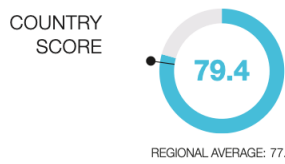
Anhang

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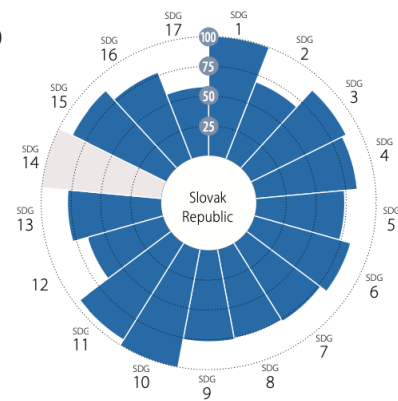
SLOVAK REPUBLIC

OECD Countries

OVERALL PERFORMANCE



AVERAGE PERFORMANCE BY SDG



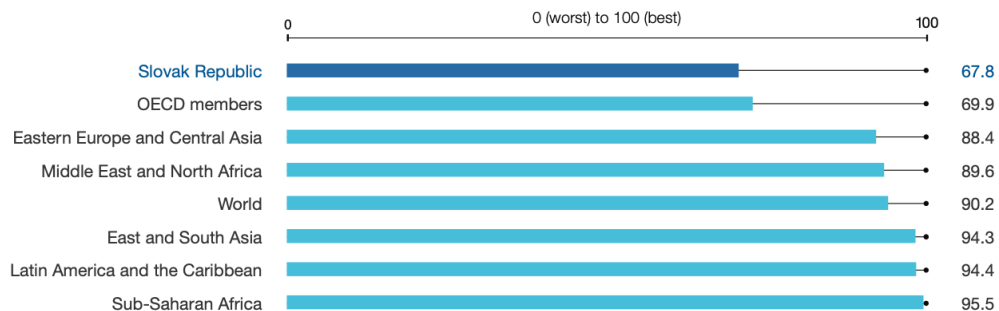
SDG DASHBOARDS AND TRENDS



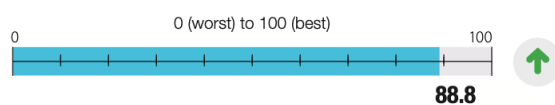
■ Major challenges ■ Significant challenges ■ Challenges remain ■ SDG achieved ■ Information unavailable
↘ Decreasing → Stagnating ↗ Moderately improving ↗ On track or maintaining SDG achievement ● Information unavailable

Note: The full title of each SDG is available here: <https://sdgs.un.org>

INTERNATIONAL SPILLOVER INDEX



STATISTICAL PERFORMANCE INDEX



MISSING DATA IN SDG INDEX

1%

SLOVAK REPUBLIC

Performance by Indicator

Indicator	Value	Year	Rating	Trend	Indicator	Value	Year	Rating	Trend
SDG1 – No Poverty					SDG9 – Industry, Innovation and Infrastructure				
Poverty headcount ratio at \$2.15/day (2017 PPP, %)	0.4	2024	●	↑	Rural population with access to all-season roads (%)	99.9	2024	●	●
Poverty headcount ratio at \$3.65/day (2017 PPP, %)	0.6	2024	●	↑	Population using the internet (%)	87.2	2022	●	↑
Poverty rate after taxes and transfers (%)	7.9	2021	●	↑	Mobile broadband subscriptions (per 100 population)	86.7	2022	●	↑
SDG2 – Zero Hunger					SDG10 – Reduced Inequalities				
Prevalence of undernourishment (%)	2.8	2021	●	↑	Gini coefficient	23.2	2019	●	↑
Prevalence of stunting in children under 5 years of age (%)	* 2.6	2021	●	●	Palma ratio	0.7	2021	●	↑
Prevalence of wasting in children under 5 years of age (%)	* 0.7	2021	●	●	Elderly poverty rate (% of population aged 66 or over)	5.2	2021	●	↓
Prevalence of obesity, BMI ≥ 30 (% of adult population)	26.8	2022	●	↓	SDG11 – Sustainable Cities and Communities				
Human Trophic Level (best 2–3 worst)	2.4	2021	●	↓	Proportion of urban population living in slums (%)	* 0.0	2020	●	↑
Cereal yield (tonnes per hectare of harvested land)	4.8	2022	●	→	Annual mean concentration of PM2.5 (µg/m³)	13.8	2022	●	↑
Sustainable Nitrogen Management Index (best 0–1.41 worst)	0.6	2018	●	↓	Access to improved water source, piped (% of urban population)	97.2	2018	●	●
Yield gap closure (% of potential yield)	48.4	2022	●	●	Population with rent overburden (%)	8.0	2020	●	→
Exports of hazardous pesticides (tonnes per million population)	0.4	2021	●	●	Urban population with access to points of interest within a 15min walk (%)	97.3	2024	●	●
SDG3 – Good Health and Well-Being					SDG12 – Responsible Consumption and Production				
Maternal mortality ratio (per 100,000 live births)	4.8	2020	●	↑	Electronic waste (kg/capita)	12.8	2019	●	●
Neonatal mortality rate (per 1,000 live births)	3.0	2022	●	↑	Production-based air pollution (DALYs per 1,000 population)	8.9	2024	●	→
Mortality rate, under-5 (per 1,000 live births)	5.9	2022	●	↑	Air pollution associated with imports (DALYs per 1,000 population)	8.1	2024	●	↓
Incidence of tuberculosis (per 100,000 population)	2.9	2022	●	↑	Production-based nitrogen emissions (kg/capita)	20.1	2024	●	↑
New HIV infections (per 1,000 uninfected population, all ages)	0.0	2022	●	↑	Nitrogen emissions associated with imports (kg/capita)	26.7	2024	●	→
Age-standardized death rate due to cardiovascular disease, cancer, diabetes, or chronic respiratory disease in adults aged 30 to 70 years (%)	15.5	2019	●	↑	Exports of plastic waste (kg/capita)	6.4	2023	●	→
Age-standardized death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	30	2019	●	●	Non-recycled municipal solid waste (kg/capita/day)	0.7	2021	●	↑
Traffic deaths (per 100,000 population)	6.4	2021	●	→	SDG13 – Climate Action				
Life expectancy at birth (years)	74.9	2021	●	↓	CO2 emissions from fossil fuel combustion and cement production (tCO2/capita)	6.3	2022	●	→
Adolescent fertility rate (births per 1,000 females aged 15 to 19)	26.0	2021	●	↓	GHG emissions embodied in imports (tCO2/capita)	5.5	2021	●	↓
Births attended by skilled health personnel (%)	98.1	2022	●	↑	CO2 emissions embodied in fossil fuel exports (kg/capita)	53.6	2023	●	↓
Surviving infants who received 2 WHO-recommended vaccines (%)	95	2022	●	↑	Carbon Pricing score at EUR60/tCO2 (% worst 0–100 best)	53.6	2021	●	↑
Universal health coverage (UHC) index of service coverage (worst 0–100 best)	82	2021	●	↑	SDG14 – Life Below Water				
Subjective well-being (average ladder score, worst 0–10 best)	6.3	2023	●	↑	Mean area that is protected in marine sites important to biodiversity (%)	NA	NA	●	●
Gap in life expectancy at birth among regions (years)	3.2	2021	●	↓	Ocean Health Index: Clean Waters score (worst 0–100 best)	NA	NA	●	●
Gap in self-reported health status by income (percentage points)	14.1	2022	●	↑	Fish caught from overexploited or collapsed stocks (% of total catch)	NA	NA	●	●
Daily smokers (% of population aged 15 and over)	21.0	2019	●	↑	Fish caught by trawling or dredging (%)	NA	NA	●	●
SDG4 – Quality Education					SDG15 – Life on Land				
Participation rate in pre-primary organized learning (% of children aged 4 to 6)	86.3	2021	●	↑	Mean area that is protected in terrestrial sites important to biodiversity (%)	85.8	2023	●	↑
Net primary enrollment rate (%)	97.1	2022	●	↑	Mean area that is protected in freshwater sites important to biodiversity (%)	86.3	2023	●	↑
Lower secondary completion rate (%)	83.2	2021	●	↓	Red List Index of species survival (worst 0–1 best)	0.97	2024	●	→
Literacy rate (% of population aged 15 to 24)	NA	NA	●	●	Permanent deforestation (% of forest area, 3-year average)	0.0	2022	●	↓
Tertiary educational attainment (% of population aged 25 to 34)	39.1	2022	●	↑	Imported deforestation (m²/capita)	13.8	2022	●	↑
PISA score (worst 0–600 best)	457.7	2022	●	↓	SDG16 – Peace, Justice and Strong Institutions				
Variation in mathematics performance explained by socio-economic status (%)	25.7	2022	●	↓	Homicides (per 100,000 population)	0.7	2022	●	↑
Underachievers in mathematics (% of 15-year-olds)	33.2	2022	●	↓	Crime is effectively controlled (worst 0–1 best)	0.88	2022	●	●
SDG5 – Gender Equality					SDG17 – Partnerships for the Goals				
Demand for family planning satisfied by modern methods (% of females aged 15 to 49)	* 79.0	2024	●	↑	Unsented detainees (% of prison population)	14.2	2022	●	→
Ratio of female-to-male mean years of education received (%)	99.7	2022	●	↑	Birth registrations with civil authority (% of children under age 5)	100.0	2021	●	●
Ratio of female-to-male labor force participation rate (%)	83.6	2023	●	↑	Corruption Perceptions Index (worst 0–100 best)	54.0	2023	●	↓
Seats held by women in national parliament (%)	22.7	2024	●	→	Children involved in child labor (%)	* 0.0	2020	●	●
Gender wage gap (% of male median wage)	13.8	2022	●	↓	Exports of major conventional weapons (TIV constant million USD per 100,000 population)	1.0	2023	●	●
SDG6 – Clean Water and Sanitation					SDG18 – Peace, Justice and Strong Institutions				
Population using at least basic drinking water services (%)	99.8	2022	●	↑	Press Freedom Index (worst 0–100 best)	76.0	2024	●	→
Population using at least basic sanitation services (%)	97.5	2022	●	↑	Access to and affordability of justice (worst 0–1 best)	0.57	2022	●	●
Freshwater withdrawal (% of available freshwater resources)	2.4	2021	●	↑	Timeliness of administrative proceedings (worst 0–1 best)	0.50	2022	●	●
Anthropogenic wastewater that receives treatment (%)	44.7	2020	●	●	Expropriations are lawful and adequately compensated (worst 0–1 best)	0.67	2022	●	●
Scarce water consumption embodied in imports (m³ H2Oeq/capita)	1,444.8	2024	●	→	Persons held in prison (per 100,000 population)	185.5	2021	●	↓
Population using safely managed water services (%)	99.2	2022	●	↑	SDG17 – Partnerships for the Goals				
Population using safely managed sanitation services (%)	82.5	2022	●	↓	Government spending on health and education (% of GDP)	10.6	2021	●	↑
SDG7 – Affordable and Clean Energy					SDG17 – Partnerships for the Goals				
Population with access to electricity (%)	100.0	2021	●	↑	For high-income and all OECD DAC countries: International concessional public finance, including official development assistance (% of GNI)	0.1	2023	●	→
Population with access to clean fuels and technology for cooking (%)	100.0	2021	●	↑	Other countries: Government revenue excluding grants (% of GDP)	** ** *	** ** *	** ** *	** ** *
CO2 emissions from fuel combustion per total electricity output (MtCO2/TWh)	1.3	2022	●	→	Corporate Tax Haven score (best 0–100 worst)	55	2021	●	●
Renewable energy share in total final energy consumption (%)	17.6	2020	●	→	Financial Secrecy score (best 0–100 worst)	53.2	2022	●	↑
SDG8 – Decent Work and Economic Growth					SDG17 – Partnerships for the Goals				
Adjusted GDP growth (%)	-1.9	2022	●	●	Shifted profits of multinationals (US\$ billion)	1.0	2019	●	↑
Victims of modern slavery (per 1,000 population)	7.7	2022	●	●	Statistical Performance Index (worst 0–100 best)	88.8	2022	●	↑
Adults with an account at a bank or other financial institution or with a mobile-money-service provider (% of population aged 15 or over)	95.6	2021	●	↑	Index of countries' support to UN-based multilateralism (worst 0–100 best)	60.9	2023	●	●
Fundamental labor rights are effectively guaranteed (worst 0–1 best)	0.74	2022	●	●					
Fatal work-related accidents embodied in imports (per million population)	2.7	2018	●	↓					
Victims of modern slavery embodied in imports (per 100,000 population)	96.3	2018	●	●					
Employment-to-population ratio (%)	72.0	2023	●	↑					
Youth not in employment, education or training (NEET) (% of population aged 15 to 24)	11.0	2021	●	↑					

* Imputed data point, ** Not applicable
NA = Data not available

RECENZIE

REVIEWS

Formovanie budúcich manažérov: Tréning sociálnych a manažérskych zručností

Formation of future managers: Training of social and managerial skills

Ladislav Mura

Názov: Tréning sociálnych a manažérskych zručností
Autori: Iveta Fodranová, Anna Veszprémi Sirotková
Recenzenti: Mária Antalová, Veronika Orfánusová
Vydavateľ: Ekonomická univerzita v Bratislave
Edícia: prvé vydanie
Rok: 2023
ISBN: 978-80-225-5052-9

Súčasnú vzdelávanie na vysokoškolskej úrovni kladie mimoriadne náročné ciele a nároky na pedagógov. Odborne vzdelávať, reflektovať na súčasné trendy v príslušnom odbore, reflektovať na najmodernejšie didaktické postupy, implementovať inovácie vo vyučovacom procese a prispievať k celkovému formovaniu osobnosti – to sú len jedny z významných požiadaviek, ktorým je potrebné vyhovieť. Vzdelávací proces na univerzitách a vysokých školách musí v sebe sklbiť nielen samotné osvojovanie si nového učiva a rozširovanie odborných vedomostí u percipientov, ale má tiež v spojitosti s výchovnými cieľmi prispieť k formovaniu osobnosti študentov, aby mohli byť čo najlepšie pripravení na trh práce. Uspieť totiž môžu iba tí jedinci, ktorí sú odborne fundovaní, ovládajú nové technológie a dokážu flexibilne reagovať na nové trendy v jednotlivých odboroch.

V podmienkach Ekonomickej univerzity ako aj v podmienkach jej jednotlivých fakúlt, sú pod odborným dohľadom pedagógov vzdelávaní a formovaní študenti v rámci prípravy na budúce povolanie. Každý vysokoškolsky vzdelaný jedinec s ekonomickým vzdelaním má dostať aj primerané penzum vedomostí a tiež zručností z oblasti riadenia. Manažment je dnes chápaný čoraz viac vo svetle nie tvrdých, ale mäkkých zručností, ovládanie ktorých je pre úspech na trhu práce absolútne kľúčový. Na Obchodnej fakulte Ekonomickej univerzity sú študenti vzdelávaní vo viacerých študijných programoch, pričom značná pozornosť je venovaná aj osvojovaniu si manažérskych vedomostí a zručností. Práve na osvojenie a rozvíjanie manažérskych a sociálnych zručností sa vo svojej pedagogickej i publikačnej činnosti zamerali dlhoročné akademické pracovníčky Katedry cestovného ruchu Ing. Iveta Fodranová, PhD. a Ing. Anna Veszprémi Sirotková, PhD.

Kolektív autoriek z Katedry cestovného ruchu Obchodnej fakulty Ekonomickej univerzity v Bratislave sa okrem iného venuje aktívnej príprave budúcich riadiacich pracovníkov pôsobiacich v oblasti služieb a cestovného ruchu. Ide o oblasť, v ktorej podnikatelia, vlastníci, manažéri a ďalší zainteresovaní jedinci sú v každodennom a permanentnom styku so zákazníkmi a tiež obchodnými partnermi. Z tohto pohľadu je potreba nadobúdania a osvojovania si sociálnych a manažérskych zručností mimoriadne dôležitá. Súčasťou prípravy budúcich odborníkov pre zmienenu oblasť je nielen ich teoretická príprava, ale tiež tréning zručností, ktoré budú v odbornej praxi súčasní študenti potrebovať. V tomto kontexte je možné veľmi pozitívne hodnotiť prípravu odbornej publikácie, ktorá je síce prioritne venovaná študentom študujúcim na Obchodnej fakulte Ekonomickej univerzity v Bratislave, ale je rovnako vhodnou pomôckou aj pre študentov celého radu študijných programov akreditovaných v širšej oblasti odboru Ekónómia a manažment na vysokých školách a

univerzitách. Nesporne je publikácia zaujímavým dielom aj pre už v praxi pôsobiacich odborníkov, podnikateľov a manažérov, ktorým môže pomôcť zlepšiť ich zručnosti.

Publikácia, ktorá je predmetom tejto recenzie vyšla vo Vydavateľstve Ekonóm Ekonomickej univerzity v Bratislave v roku 2023 v rozsahu 154 strán a v celkovom náklade 50 výtlačkov. Ide o prvé vydanie, ktoré v kruhoch študentov i ďalších percipientov môže vyvolať záujem o štúdium a tréning sociálnych a manažérskych zručností a taktiež môže vyvolať aj odbornú diskusiu o potrebe vzdelávať sa a rozvíjať sa v týchto oblastiach. Náklad v počte päťdesiat kusov považujem za primeraný vzhľadom ku skutočnosti, že ide o prvé vydanie. Je možné predpokladať, že na základe spätnej väzby z pedagogického procesu ako aj od samotných percipientov, bude publikácia doplnená a inovovaná k jej ďalšiemu vydaniu. Prvotný rukopis bol podrobený recenznému konaniu, pričom recenzentmi publikácie boli doc. PhDr. Mária Antalová, PhD. a Ing. Veronika Orfánusová, PhD. Publikácia bola schválená pedagogickou a edičnou komisiou Ekonomickej univerzity v edičnom programe na rok 2023 ako skriptá.

Recenzovaná publikácia prináša na celkovom rozsahu 154 strán nielen odborný text, ale aj mnohé obrázky (v počte 12 kusov), tabuľku, schémy (v počte 2 kusy). Všetky tieto grafické prvky majú napomôcť porozumieť odbornému výkladu, lepšiemu zapamätávaniu a fixácie učebnej látky a podporiť predstavivosť u percipientov. Pozitívne hodnotím doplnenie textovej časti publikácie o tieto prvky, ktoré majú podpornú funkciu a tiež spestrujú charakter tejto publikačnej jednotky. V tomto prípade je učebná pomôcka klasifikovaná ako vysokoškolské skriptá, ktoré prinášajú v zhutnenej podobe spektrum sociálnych, psychologických a manažérskych vedomostí. Tie sú potom základom pre následný tréning mäkkých zručností. Autorský kolektív prináša v prehľadnej forme celý okruh tematických celkov, ktoré sú úzko naviazané najmä na výkonnú funkciu riadiacich pracovníkov nielen v podnikateľských subjektoch. Tréning sociálnych a manažérskych zručností je významný aj pre riadiacich pracovníkov, majiteľov a ďalších zainteresovaných aj mimo komerčnú sféru. Tieto zručnosti je možné rovnako využiť aj v ďalších sférach, napríklad vo verejnej správe, organizáciách s rôznorodým vlastníctvom a pod.

Vysokoškolské skriptá sú tvorené celkovo jedenástimi samostatnými kapitolami, ktoré sú odvádzané od troch hlavných vedných odborov, ktoré spoločne vytvárajú interdisciplinárny prístup vo vzdelávaní: psychológia, sociológia a manažment. Recenzovaná publikácia prináša okrem odborných jedenástich kapitol aj úvod, spracovaný zoznam použitej literatúry. Rozsah použitej literatúry je naozaj značný a prináša vedomosti, skúsenosti od mnohých, okrem domácich aj v značnej miere zahraničných odborníkov. Autorský kolektív vychádzal nielen z knižných publikácií, ale tiež z vedeckých prác, ktoré boli zverejnené vo vedeckých a odborných časopisoch, zborníkoch, v malej miere na odborných online portáloch. Preukázali tak svoju výbornú orientáciu v danej problematike a záujem transferovať poznatky do výchovno-vzdelávacieho procesu. Je možné tiež uviesť, že autorský kolektív sa pridržiaval aj didaktických zásad. Okrem výkladu učiva obsahuje každá kapitola v jej úvode definovanie poslania kapitoly a vymedzenie jej cieľov. Záver každej kapitoly obsahuje súbor úloh a aktivity, ktoré majú napomôcť osvojeniu si vedomostí a prostredníctvom riešenia praktických situácií aj osvojeniu si potrebných zručností. Vhodnou formou je teda zabezpečená aj spätná väzba.

V prvej kapitole vysokoškolských skript sa autorky venovali spektru požadovaných zručností a schopností, ktoré sú očakávané od riadiacich pracovníkov. Čiastkovými témami sú vymedzenie základných pojmov, definovanie manažérskych zručností, popis rozvoja manažéra a priblíženie rizík v manažérskej práci. V rámci druhej kapitoly je pozornosť venovaná psychológii osobnosti a jej štruktúre. Tu si autorský kolektív zadefinoval tri čiastkové témy, ktorými sú vymedzenie základných pojmov, dynamika štruktúry osobnosti a špecifické

poruchy osobnosti. Považujem za veľmi vhodné zaradenie posledne menovanej sub-problematiky. Dnes čoraz viac je do popredia stavaná emocionálna inteligencia. Tejto problematike sa opäť v rozsahu troch čiastkových tém venovali autorky v poradí v tretej kapitole vysokoškolských skrípt. Súčasný svet je hlavne o komunikácii. Tejto oblasti sa nevyhli ani autorky, pretože vo štvrtej kapitole sa venujú piatim čiastkovým témam z oblasti komunikácie. Okrem vymedzenia základných pojmov približujú komunikačný proces, klasifikujú verbálnu a neverbálnu komunikáciu a venujú sa aj osobitostiam viazaným na manažérsku komunikáciu. Aj v tomto prípade je potešiteľné, že priestor je venovaný špecifickosti komunikácie práve v oblasti riadiacej práce. Piata kapitola skrípt je venovaná asertivite a okrem vymedzenia základných pojmov prináša poznatky o štýloch správania a asertívnom vedení. Základom dynamiky, teda pohybu či pohnútky k nejakej činnosti je motivácia. Tej je venovaná šiesta kapitola v členení na vymedzenie základných pojmov, motiváciu verzus motivovanie a efektívnu motiváciu zamestnancov. Úspech akéhokoľvek hospodárskeho subjektu je možné dosiahnuť často iba tímovou prácou. To bola verím pohnútkou k spracovaniu siedmej kapitoly, ktorá okrem definovania základných pojmov uvádza čitateľa aj do podstaty a významu tímových rol na základe klasifikácie Belbina. Priestor je tiež venovaný efektívnemu riadeniu tímov, čo je pre úspech celého kolektívu jednoznačne potrebné. V dnešnej dobe je práve čas významným determinantom a mnohé neúspechy sú spôsobené nevhodným načasovaním a riadením vlastného času. Tejto problematike sa autorky venujú v poradí v ôsmej kapitole, ktorá po definovaní pojmového aparátu prináša dnes pertraktovanú problematiku prokrastinácie a kapitolu ukončujú metódy organizácie času. V súvislosti s časovou tiesňou (ale nielen od tohto faktora) vzniká mnoho stresu a stresových situácií, ktoré je potrebné zvládať. Túto čiastkovú problematiku prináša deviatu kapitola a okrem priblíženia týchto skutočností prináša aj tak prepotrebné možnosti odbúravania stresu – relaxačné techniky. V predposlednej kapitole je priestor venovaný najmä vzdelávacím aspektom a prináša jednotlivé štýly učenia, poznávania, definovania odborných pojmov tiež zvyšovanie hodnoty zamestnancov prostredníctvom učenia. Finálna, dvanásť kapitola približuje cieľ ako predpoklad úspechu v osobnom živote a kariére. Po uvedení čitateľa do odbornej terminológie sa kapitola venuje rubikonovému modelu a kariérovým cieľom. Kariérny rozvoj a kariérny postup u zamestnancov je potrebné plánovať a vhodne načasovať, riadiť v prospech cieľov jedinca i organizácie.

Na záver je okrem celkového pozitívneho hodnotenia novej publikácie určenej pre výchovno-vzdelávací proces vysloviť aj presvedčenie, že skriptá budú významným pomocníkom nielen pre študentov, ale aj pre ďalších záujemcov o osvojenie si mäkkých zručností.

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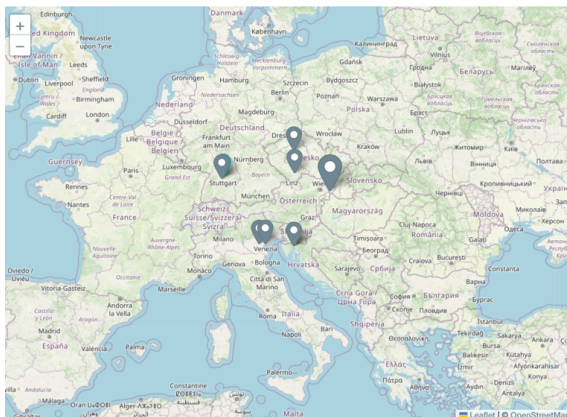
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Project partnership



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 Faculty of Business management
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 Country
 Slovakia (SK)
 Web
www.cuba.sk

Total partner budget
 207 200 €

Project overview

Futurepreneurs and SMEs for a sustainable Central Europe | Certification Scheme

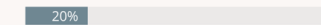
Futurepreneurs are professionals that are driven by purpose and impact. They take on societal challenges and climate change with an entrepreneurial mindset and want to improve our lives. The GREENPACT project sets up partnerships between companies and futurepreneurs. The aim is to develop a certification scheme for a new generation of impact-driven top executives. To this end, the project develops joint action plans, pilot actions and a self-assessment tool.



Duration

Start date **04.2023**
 End date **03.2026**

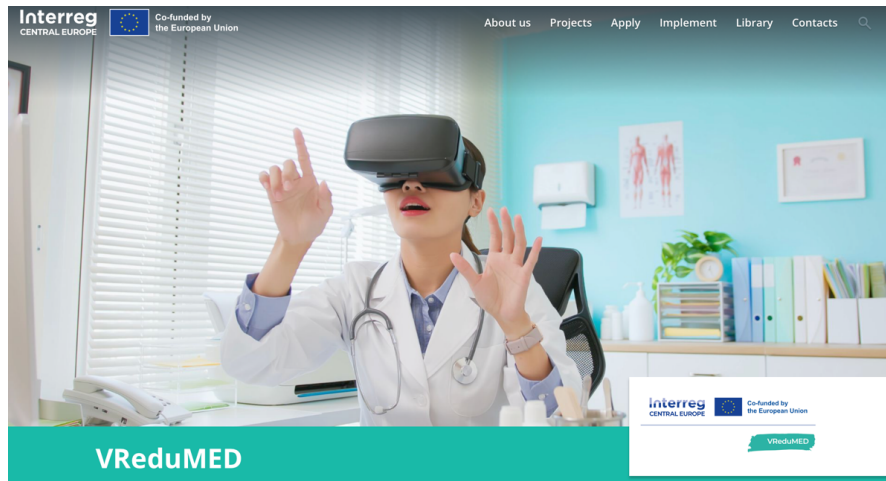
Project progress



Project partners

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- Project partner
- Stuttgart Region Economic Development Corporation
 - ENAIP Veneto Social Enterprise
 - Region of Veneto - Department of Labour
 - STEP RI Science and Technology Park of the University of Rijeka Ltd
 - City of Rijeka
 - Czech Chamber of Commerce
 - Institute of Technology and Business in České Budějovice
 - University of Economics in Bratislava



Project overview

Virtual Reality Education and Training Solutions for Medicine Sector

Medical interventions are increasingly digitalised but training of health care staff is still lagging behind. The VReduMED project helps to untap the potential of virtual and augmented reality for their education. The partnership develops a roadmap for virtual reality training products and services and will publish a handbook on the integration of virtual reality into health care education. They also set up three regional virtual reality labs to test different virtual reality use cases.

2,20 m €

Project Budget

80%

of the Budget is funded by ERDF

5

Countries

10

Partners

6

Regions

3

Pilots

Project partners



Lead partner
South Bohemian Science and Technology Park, corp.

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- University of South Bohemia in České Budějovice** ▼
- Business Upper Austria** ▼
- Education Group** ▼
- University of Economics in Bratislava** ▼
- National Institute of Children's Diseases** ▼
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Duration

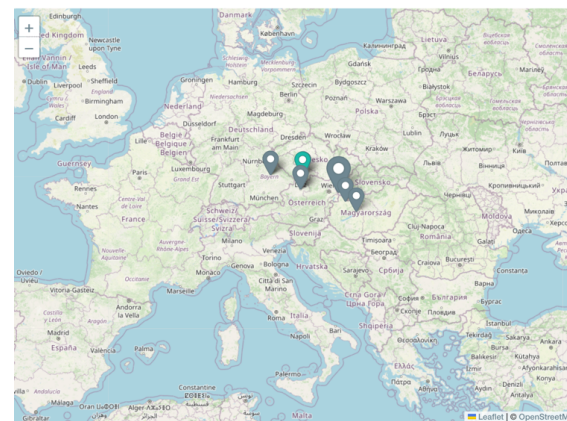
Start date **04.2023**

End date **03.2026**

Project progress

20%

Project partnership



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Total partner budget
220 900 €



Project overview

Start date:

01 January 2024

Status: ongoing

End date:

30 June 2026



€1,540,470 budget

80.00 % funded by
Interreg Funds

7 countries

10 partners

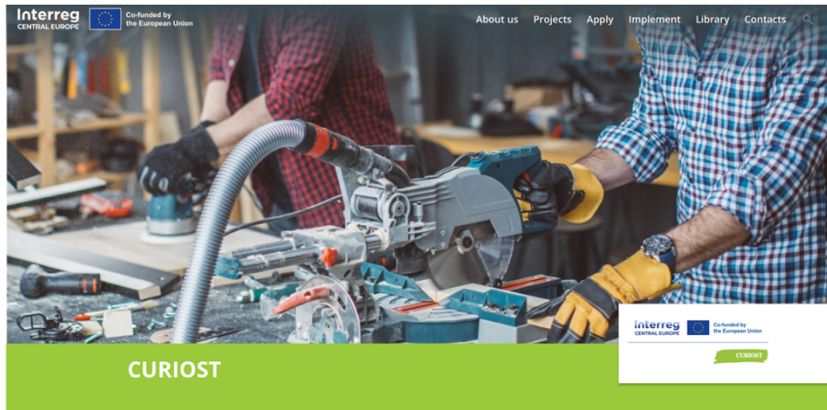


SOCIALLY RESPONSIBLE SLOW FOOD TOURISM IN THE DANUBE REGION

The main objective of the SReST project is to promote "slow food" tourism in the Danube region and enhance the employability of vulnerable groups by providing solutions that enable the valorisation of agrobiodiversity and gastronomic heritage and a fair distribution of generated benefits, including the well-being of the host communities.

By focusing on agro-biodiversity, food heritage and local identity, the goal is to broaden the socially responsible sustainable tourism offer and promote "slow food" tourism based on the exploration of gastronomic traditions and the local communities that preserve them. The project will help enhance local agricultural high-value chains while appreciating natural and cultural diversity of partner regions.

SReST will develop joint solutions to enhance socio-economic development and promote alternative models and competitive new tourism products of "slow food" itineraries grounded in agrobiodiversity and food heritage, tested in different territorial contexts of pilot regions. These solutions will not be limited to the local level, but will have a wider impact in the Danube area. Therefore, the success of the project will be based on close cooperation between partners from different countries and regions. You can learn more about the project partners [here](#).



CURIOST

Duration

Start date **06.2024**
End date **11.2026**

Project partners



Lead partner

Business Upper Austria

Mechatronics Cluster + Circular Economy
Team @ Plastics Cluster

Address
Hafenstraße 47-51
4020 Linz

Country
Austria (AT)

Web
<https://www.biz-up.at>

Project partner

- ConPlusUltra Ltd** ▼
- University of Economics in Bratislava** ▼
- Chamber of Commerce and Industry of Pécs- Baranya** ▼
- South Poland Cleantech Cluster Ltd.** ▼
- STEP RI science and technology park of the University of Rijeka Ltd.** ▼
- Development and Training Centre for the Metal Industry - Metal Centre Čakovec** ▼
- MESAP Innovation Cluster** ▼
- Science and Technology Park - Envipark** ▼
- Bayern Innovativ** ▼
- Cluster of Environmental Technologies Bavaria** ▼

Project partnership

Project partner
University of Economics in Bratislava

Faculty of Business management

Address
Dolnozemska cesta 1
85235 Bratislava

Country
Slovakia (SK)

Web
www.euba.sk

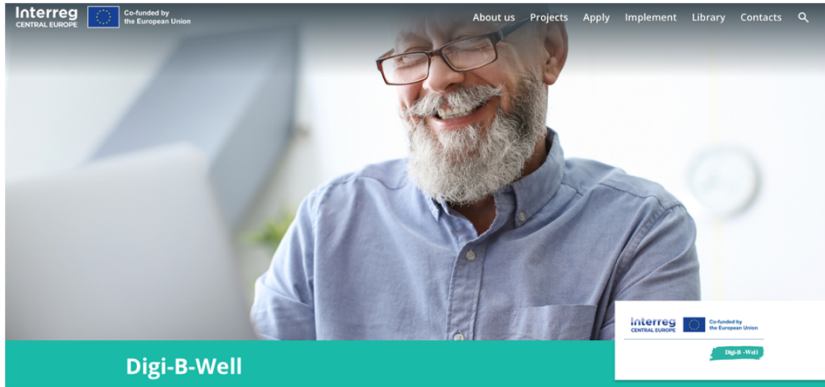
Total partner budget
174 020 €

Project overview

Circular design and development of Sustainable products in 4 key sectors in Central Europe

The ongoing transition to a circular economy is not only a tedious obligation for the manufacturing industry. It also offers an opportunity to develop innovative sustainable products. The CURIOST project helps small- and medium-sized companies in sectors like mechanics, packaging, plastics, and construction to harvest the potential benefits. They help selected companies to co-develop tailor-made, innovative, sustainable and circular product prototypes. The learnings are then aggregated into a universal strategy and action plans to accelerate the green transition in the manufacturing industry.





Duration

Start date **06.2024**

End date **05.2027**

Project partners



Lead partner

Primorje-Gorski Kotar County

Administrative Department for Regional Development, Infrastructure and Project Management

Address
Adamićeva 10
51000 Rijeka

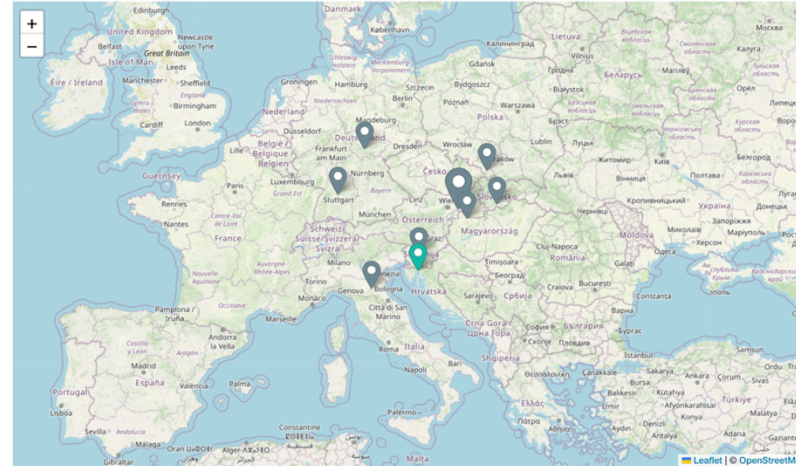
Country
Croatia (HR)

Web
www.pgz.hr

Project partner

-  **Alma Mater Studiorum - University of Bologna** v
-  **Technical University Ilmenau** v
-  **bwcon** v
-  **Chamber of Commerce and Industry of Slovenia** v
-  **Pannon Business Network Association** v
-  **University of Economics in Bratislava** v
-  **Regional Development Agency in Bielsko-Biala** v
-  **City Lucenec** v

Project partnership



Project partner
University of Economics in Bratislava

Faculty of Business Management

Address
Dolnozemska cesta 1/B
85235 Bratislava

Country
Slovakia (SK)

Web
rpm.euba.sk

Total partner budget
286 428,83 €

Project overview

Enhancement of capacities of SMEs, public authorities and academia for digitalisation, digital era-fit management and achievement of digital well-being.

The digital transformation offers new opportunities for companies but also increases complexity. Especially employees over 55 can suffer from digital stress or burnout at the workplace. The Digi-B-Well project helps companies to transform and make employees fit for the digital age. The partners upskill competences of managers, public authorities, and academia to better prevent digital stress and burnout. They develop and test new tools to self-assess digital maturity and digital transformation models in companies. In addition, a digitalisation strategy and action plans ensure the uptake of their innovative solutions into broader policy and business practices.



EKONOMIKA A MANAŽMENT
Vedecký časopis Fakulty podnikového manažmentu
Ekonomickej univerzity v Bratislave

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