

2025



# 13<sup>th</sup> INTERNATIONAL CONFERENCE ON MANAGEMENT

Circular & Digital: Managing for a Sustainable Future

PEER-REVIEWED  
SHORT PROCEEDINGS

## PART 2

September 10–11, 2025  
Brno, Czech Republic

Editor: Pavel Žufan

- MENDELU
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- of Business
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## ABSTRACT

The proceedings feature the total 62 scholarly papers (49 in the Part 1, and 13 in this Part 2) addressing contemporary challenges and innovations in management, sustainability, digital transformation, and economic development. Key topics include circular economy strategies, ESG and CSR practices, digitalization in industry and education, sustainable finance, green manufacturing, and the evolving role of leadership and human capital in a rapidly changing global landscape. The proceedings reflect interdisciplinary approaches and regional perspectives, particularly from Central and Eastern Europe, offering theoretical insights, empirical research, and practical frameworks for fostering sustainable and resilient organizations in the digital age.

Keywords: management, sustainability, corporate social responsibility, ESG reporting, circularity, digitalization

## ABSTRAKT

Sborník obsahuje celkem 62 vědeckých článků (49 v prvním díle a 13 v této druhé části), které se zabývají současnými výzvami a inovacemi v oblasti managementu, udržitelnosti, digitální transformace a ekonomického rozvoje. Mezi klíčová téma patří strategie cirkulární ekonomiky, postupy ESG a CSR, digitalizace v průmyslu a vzdělávání, udržitelné finance, zelená výroba a vyvíjející se role vedení a lidského kapitálu v rychle se měnícím globálním prostředí. Sborník odráží interdisciplinární přístupy a regionální perspektivy, zejména ze střední a východní Evropy, a nabízí teoretické poznatky, empirický výzkum a praktické rámce pro podporu udržitelných a odolných organizací v digitálním věku.

Klíčová slova: management, udržitelnost, společenská odpovědnost organizací, ESG reporting, cirkularita, digitalizace

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**ICOM 2025**

**PEER-REVIEWED**

**SHORT PROCEEDINGS**

# STRATEGIC MANAGEMENT IN THE ESG CONTEXT: AN EMPIRICAL TYPOLOGY OF BUSINESS APPROACHES

Filip Alačkov<sup>1</sup>, Renata Kučerová<sup>1</sup>, Sylvie Formánková<sup>1</sup>,  
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**Keywords:** corporate culture, human resources, sustainability leadership, typology of corporate approaches to ESG.

**JEL Classification:** L21, M10

## 1 INTRODUCTION

The integration of ESG into strategic corporate management fundamentally transforms goal-setting, human resource management, and corporate culture. ESG is no longer merely a response to external demands but is becoming a framework for internal decision-making [6]. Companies are redefining their objectives—from purely financial metrics to long-term indicators such as carbon footprint, diversity, and community impact [3].

In human resources, ESG promotes ethical leadership, inclusion, and employee engagement. Managers are shifting from performance-focused roles to sustainability leadership [1]. Corporate decision-making increasingly relies on stakeholder analysis and scenarios that consider environmental and social externalities [4], enhancing innovation capacity and the development of sustainable products [8].

Top management is beginning to use non-financial metrics to evaluate performance, including supply chain sustainability, leadership ethics, and human capital development [5]. ESG also influences marketing—consumers, especially younger generations, prefer brands that reflect their values and are willing to pay more for ethical products [7].

Authentic ESG communication strengthens reputation and customer loyalty, while greenwashing can lead to a loss of trust [2]. ESG thus becomes not only part of brand identity but also a competitive advantage. Companies are considering sustainability throughout the supply chain—from partner selection to logistics [9].

ESG is currently transforming strategic management into a tool for creating long-term value that includes not only profit but also societal and environmental impact.

## 2 METHODOLOGY

The aim of our research was to assess the degree of ESG integration into corporate strategic management and to identify typologies of corporate approaches to ESG through a quantitative survey and cluster analysis. The research focused on how companies plan ESG goals, incorporate them into corporate culture, decision-making processes, and human resource management, and how ESG affects their business models and stakeholder relationships coming from a sample of 87 companies in the Czech Republic.

### 3 RESULTS

Using cluster analysis (K-means clustering), four typical approaches to ESG were identified, differing in preparedness, motivation, and strategic integration:

- **Cluster 1 – Internal Motivation, Low Preparedness**  
Companies in this segment have a positive attitude toward ESG and some internal motivation. ESG is part of the corporate culture, but legislative preparedness and strategic integration into products and services are lacking. Reporting is weak, and third-party verification is minimal. Nevertheless, companies report reputational benefits.
- **Cluster 2 – ESG as Compliance**  
Companies are highly prepared for legislative requirements (e.g., CSRD), implementing ESG formally—reporting, training, auditing. ESG is not seen as a competitive advantage but as a necessary obligation. Motivation is primarily external, focused on regulatory compliance.
- **Cluster 3 – ESG as Comprehensive Strategy**  
This segment shows the highest level of strategic ESG integration. Companies adapt products to ESG requirements, have established internal processes, training, and reporting. ESG is perceived as costly but as a long-term investment. The approach is proactive, stakeholder-oriented, and focused on reputation and innovation.
- **Cluster 4 – Market-Driven Actors**  
Companies use ESG as a response to market demand. They adapt products, communicate ESG values, and build their brand. ESG is not systematically embedded in management, and reporting is weaker. Motivation is commercial rather than regulatory or value-driven. ESG brings reputational and customer benefits but lacks deeper integration.

### 4 CONCLUSION

Cluster analysis reveals that corporate approaches to ESG in strategic management are heterogeneous. While some companies fully integrate ESG as a strategic tool, others perceive it only as a regulatory obligation or marketing instrument. The level of preparedness, motivation, and systemic integration varies significantly by company size, sector, and internal engagement.

The research confirms that ESG is becoming not only a tool for regulatory compliance but also a strategic element influencing innovation, stakeholder management, and reputation. Companies with deeper ESG integration show higher customer trust, better access to financing, and greater preparedness for future legislative developments. In contrast, companies with

formal or reactive approaches risk reputational damage and loss of business opportunities.

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# TRANSITIONING TO A GREEN ECONOMY IN CENTRAL EUROPE: A SYSTEMATIC REVIEW OF REGIONAL DEVELOPMENT STRATEGIES IN HUNGARY AND POLAND

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**Keywords:** Green economy, regional development, Central Europe, sustainable clusters

**JEL Classification:** Q01, Q56

## 1 INTRODUCTION

Sustainable regional development throughout Europe needs the essential transformation into a green economy. Green economy standards represent a critical public policy component for regional development in Central Europe where Hungary and Poland are especially focused. The evolving cohesion policies and The European Green Deal highlight regional innovation as their main element to fulfill sustainable development requirements between economic growth and environmental protection [1]. The success of implementation varies between regions because each territory handles governance structures and institutional readiness together with strategic resource management methodologies differently [5]. This research uses a systematic literature review (SLR) technique to assess how green economic principles have been incorporated into regional development strategies of Hungary and Poland.

## 2 MATERIAL AND METHODS

The research bases its analysis on a systematic literature review (SLR) for understanding regional approaches in Hungary and Poland that promote green economic development. The researchers obtained their data from Scopus and Web of Science databases and professional academic and policy research articles from 2018 to 2023 using Google Scholar. The research included three core terms describing “green economy” in addition to “sustainable regional development” and “green clusters” with a focus on “Central Europe”. The study granted inclusion status to peer-reviewed publications combined with EU policy documents and national strategies regarding activities for regional green transition. Researchers conducted a qualitative analysis on the selected studies to determine both common themes and governance models as well as best practices and challenges which appeared across the literature.

## 3 RESULTS

The analysis proves regional strategies implement green economy approaches through green clusters which enable renewable energy technology manufacturing and agricultural technological innovations and circular manufacturing implementations [2]. EU funding has enabled public-private partnerships to support sustainable innovation between Central Transdanubia (Hungary) and Lower Silesia (Poland). However, significant challenges remain. Regional development faces two main challenges including insufficient coordination of initiative activities

and low engagement from stakeholders as both issues stem from unsteady funding flows [3]. The research investigation highlights that the Visegrád region undergoes successful green transitions due to cross-border and international regional partnerships according to [6]. UNEP framework [4] provides an effective tool to monitor green economy advancement.

## 4 CONCLUSIONS

The research demonstrates that both Hungary and Poland embrace green economic principles within their regional planning but differences appear in regional capabilities regarding coordination and strategic implementation abilities. Strategic planning must aim at EU resource targets while being inclusive based on literature recommendations about multi-level governance systems. Regional sustainability over long periods depends on policy integration and stakeholder participation for sustainable outcome achievement. It is important for future studies to analyze green cluster model scalability prospects across Central and Eastern European regions.

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# EMPLOYER BRANDING AS A MODERN TOOL FOR ACQUIRING AND RETAINING EMPLOYEES

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**Keywords:** Employer Branding, recruitment, acquiring and retaining employees

**JEL Classification:** M12, M30, M51

## 1 INTRODUCTION

The employee market means that a passive approach by employers to the recruitment process, which focuses only on selection from a broad pool of applicants, is no longer sufficient. Employers should therefore take a proactive stance with regard to building an organisational image that attracts candidates and makes it easier for organisation to retain them. For this reason, it becomes necessary to implement a variety of practices to support image building for the employer of choice. It should also be emphasised that employee sourcing activities, similarly to other organisational activities, should be evaluated in order to assess their effectiveness, efficiency and relevance in relation to the results achieved. All activities undertaken by an organisation, aimed at potential and existing employees, to build its image as an attractive employer and to support its strategic business goals are referred to as Employer Branding (EB) [1, 2, 3].

The aim of this study is to assess the Employer Branding practices applied by Polish enterprises and to assess them in terms of their fit with the changing values and expectations of employees over time.

## 2 MATERIAL AND METHODS

The literature on the subject was used to discuss the basic terminology of the issues addressed in the article. In turn, the desk research method [4] was used to analyze the solutions used by Polish organizations in the field of employee acquisition and retention. Above all, the studies that referred to cyclical research were selected in order to track changes that have occurred in recent years in the initiatives undertaken by employers regarding EB. The following questions were asked in the research process:

- Do companies appreciate the importance of employer branding?
- Do Polish employers have knowledge of employees' values and expectations, and to what extent do they use this knowledge in the process of acquiring and retaining employees?

## 3 RESULTS

As the results of the research indicate, there is a growing number of organisations that spend as much time and energy on employer branding as on consumer branding. These efforts are vital because recruitment is not just about increasing the number of applications for vacancies on offer, but about attracting the right candidates. Considering the decreasing level of unemployment, gaining the attention of a job candidate will become increasingly difficult. Therefore, companies are reaching for solutions that are new to them and one can observe an increasing number of companies that declare to have a defined employer branding strategy. Candidates want to know as much as possible about potential employers, so employers should consciously build their own channels where candidates will find the information they are interested in. More and more companies have a careers page or tab, as well as a profile

on social media such as LinkedIn. There is a growing awareness of the need to communicate the employer brand among employees, e.g. through development programmes, the implementation of transparent internal communication, well-being programmes, internal branding activities or an onboarding programme.

Despite growing awareness, EB has still not gained the proper prominence and role in organisations as it should. Employers do not have a strategy-driven need for EB activities. There is a lack of understanding of this category, and consequently, a lack of consistency and coherence in the activities carried out. EB is too often understood merely as a promotional activity to support recruitment and retention by creating certain expected images, rather than a real reflection of the organisation's culture. The positioning of EB at the interface of two areas – Human Resources and Public Relations – is unfavourable. The labour market is not necessarily favourable either, as there is still a deficit of employees whose competences are needed in organisations. This deficit and skills gap will only get worse as demographic conditions are increasingly problematic. It is necessary to strategically nurture employees in order to successfully compete for talents.

## 4 CONCLUSIONS

EB activities can have a big impact on a company's image, not only in the HR sense but also in terms of sales. It is worth building awareness within the organisation that EB is not just a sub-activity of HR, but something more. Leaders should look after EB on a day-to-day basis, and not just HR or PR people through texts posted in the career section or on the employer profile. It is important to be comprehensive. Firstly, the organisation's culture, values and Employer Value Proposition (EVP) need to be defined at each stage of the employee lifecycle in the organisation, and then this needs to be translated into measurable Key Performance Indicators (KPIs) and the whole team needs to be involved in their implementation. Once this work has been done internally, only then can the results be shown externally and a real employer image presented. Then this image will be consistent and reach the maturity of EB activities.

True and effective EB is a long-term strategy for attracting, engaging and retaining the most talented employees within an organisation. It is also important that a developed EB strategy benefits different stakeholder groups, i.e. candidates, employees or the company's shareholders/owners.

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# SOCIAL CAPITAL IN ORGANIZATIONS: RELEVANCE AND APPLICATION OF THEORY TO EMPLOYEE RELATIONS IN TODAY'S WORK ENVIRONMENT

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**Keywords:** corporate culture, human resources, sustainability leadership, typology of corporate approaches to ESG

**JEL Classification:** L21, M10

## 1 INTRODUCTION

Given the current labour market and the environment within companies, the application of social capital theory is an important topic that can be used to examine social ties and interactions, as well as areas such as group dynamics, communication, and knowledge sharing among employees. The aim of our research was therefore to verify the relevance and topicality of social capital theory in relation to organizations and their internal environment, with a focus on employee relations.

Over more than 30 years, many authors have paid attention to social capital theory. During these years, social capital has been examined from various perspectives. For example, Coleman [7] focused on the level of individuals, Putnam [20] dealt with „social organizations“ or public administration. Burt [4] examined social capital in a broader context with markets and other aspects, such as in relation to businesses. As some more recent research suggests, for example by Chang and Chuang [5], Hollenbeck and Jamieson [12], or Jha and Cox [13], it is also possible to examine this theory from the perspective of businesses and in relation to employees. From this perspective, some modifications to the definitions of social capital can be proposed. For example, according to Portes and Sensenbrenner [19], it is the expectation of some collective activity that influences economic goals and behaviour toward a chosen goal among members of an organization. Tsai and Ghoshal [26] add that it is a shared vision or set of common values that develops social capital and thus makes the activities of individuals and the entire company more effective. Or, as Erickson [9] adds, it is a diverse network of social relationships between people that is valuable to both employees and employers. Erickson [9] also pointed out that ties are already influenced by the selection process.

The proper functioning of social ties is crucial because they can strengthen knowledge transfer and indirectly contribute to financial and non-financial performance [22, 24]. In this context, this refers to innovation and learning, process acceleration, or a positive impact on customer satisfaction [22, 24]. Social capital is further examined in relation to CSR and its link to the social pillar [17, 25]. The theory of social capital is not yet clearly defined [1, 10, 18, 27]. This is probably due to the breadth of the theory and its complexity [18, 23]. On the other hand, the ambiguity of social capital allows the theory to be applied in different situations and examined from different angles [12, 6, 21].

Authors thus deal, for example, with topics such as social networks and their complexity [2, 12]. Furthermore, they examine what influences these networks and interactions [21]. Or what benefits social capital brings to members of these networks and to the group as a whole [8, 14, 22]. These topics raise the question of whether this theory could also be used to analyse the internal environment of an organization. At least some recent research suggests that selected aspects of the theory could be applied in this way [14].

## 2 MATERIAL AND METHODS

The first step of our research was to gather available information about the theory and, based on this, define social capital in broad terms. At the same time, the main thematic areas and factors associated with social capital were identified. The second step was to conduct qualitative research.

The aim of the research is therefore to verify the relevance and topicality of social capital theory in relation to organizations and their internal environment, with a focus on employee relations. The research objective also includes compiling a summary of the factors most frequently mentioned in connection with social capital theory. The research question is whether social capital theory can also be applied to organizations and their internal environment and, if so, in what form the theory can be adapted to the internal environment of organizations.

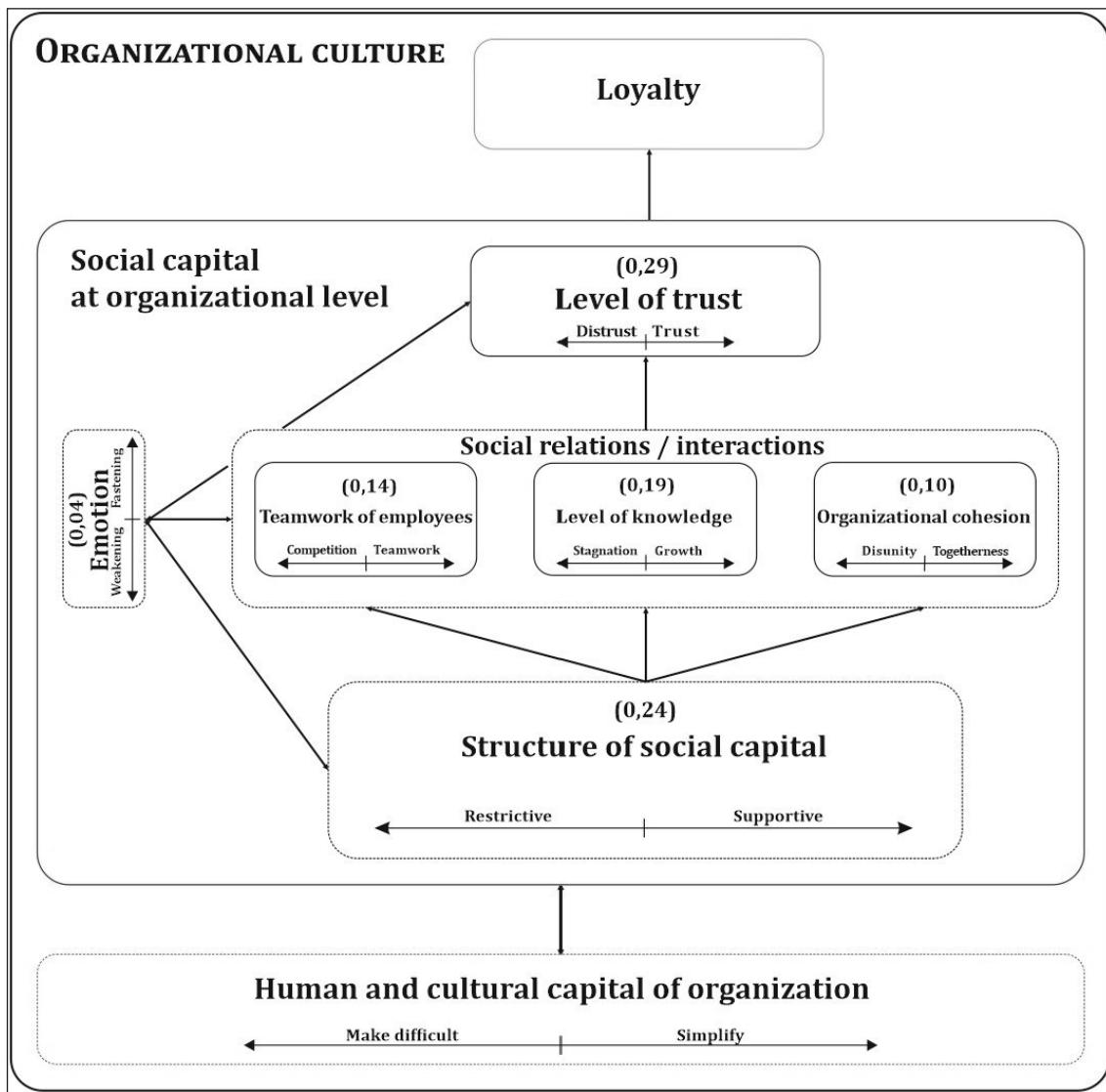
The qualitative survey was conducted in the Czech Republic in 2021. Selected respondents assessed the relevance of social capital theory at the organizational level. These included one senior manager from the public sector, three HR managers from IT companies, one person from a recruitment agency, and one academic. The study also investigated the form in which social capital theory can be applied to organizations. The research also included an assessment of the significance of the identified factors. The interviews were recorded on a recording device. The recorded interviews were transcribed into text form according to the authors Kaderka and Svobodová [15]. The Grounded Theory method [11] was chosen to evaluate the interviews. The MAXQDA 2018 program [16] was used to analyse the qualitative data. The text was continuously coded and common categories were sought – main factors [11]. Subsequently, the scored factors were evaluated.

## 3 RESULTS

According to the respondents, the most important factors that create social capital include **structure** and **knowledge**. **Structure**, i.e. the composition of the team, forms the basis of social capital. People should know who to turn to. A well-assembled team facilitates the dissemination of information and strengthens the sense of security within the team. If employees are satisfied with the composition of the team—the structure—a positive impact on training and, above all, trust can be expected.

The structure of social ties also influences loyalty and satisfaction. Within this factor, respondents rated the sub-factor **quality of relationships** (how well I know the people around me) and **management style as the most important**. Interestingly, according to respondents, the **number of relationships** (how many people I know personally at work) has less influence on the creation of social capital than the **quality of relationships** (how well I know my colleagues). The interviews also revealed that ties within the team should be stable. There should be a clear division of competences, responsibilities, and job positions within the team. Another important factor is **knowledge**. Respondents perceive this factor as relevant in connection with social capital theory. According to their assumption, knowledge is one of the main benefits of social capital. It is particularly important to focus on **willingness to share knowledge** and **motivation to learn**, as these are the two most important aspects.

All processes take place in a specific context, which is the organizational cultural capital in the form of values, goals, and mission. It is the environment of the organization that shapes a number of elements including social ties and interactions. These ties are illustrated in Figure 1.



**Fig. 1:** Hypothetic model of the social capital theory adaptation on the level of organisations

#### 4 CONCLUSION

Social capital is perceived as a network of people or a network of relationships. Interactions take place within these networks, which arise in the environment of an organization. This creates added value, as mutual cooperation is enriching. Social capital is considered part of an organization's culture. It is perceived as the result of certain activities and is built up gradually. However, it does not arise directly.

Social capital is an element that unites individuals. Respondents consider the core of social capital to be its structure, within which information, knowledge, and values are shared. They add that the more specialized the network is, the more noticeable the losses are when an employee leaves. The research confirms that social capital theory is perceived as highly relevant in every aspect of human life and in almost every environment, including the internal environment of companies and organizations.

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# AGRI-ENVIRONMENTAL SUPPORT FROM THE FARMER'S SIDE

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**Keywords:** agricultural policy, support, farming

## 1 INTRODUCTION

The Agri-Environmental Management Programme (AKG) is a call co-financed by the Government of Hungary and the European Union. The project's main objective is to promote the sustainable development of rural areas, improve the condition of soils and biodiversity, and strengthen agri-environmental protection for agricultural producers. Batáry *et al.* [2] emphasized that the effectiveness of successful programmes largely depends on the long-term commitment of farmers, which can only be achieved through appropriate planning and the implementation of measures tailored to local conditions. Projects meeting the requirements of the call are eligible for normative, area-based, non refundable subsidies, granted within the limits of the available resources.

In previous years, the Agri-Environmental Management Programme (AKG) was announced for the period between January 1, 2015 and December 31, 2021. This was followed by a three year cycle (2022–2024) within the framework of the Common Agricultural Policy. In the course of research, the author conducted in-depth interviews with farmers to explore the impacts of the AKG on their farms and standard of living. The aim was to gain a broader understanding of how farmers perceive the objectives of the AKG programme.

## 2 MATERIAL AND METHODS

The author aimed to gain insight into the personal experiences of farmers regarding the objectives and implementation of the AKG. In order to understand their perspectives and experiences, the author conducted in-depth interviews with farmers in his local area who had previously participated in the AKG programme. During the interviews, participants were asked to what extent the additional financial support provided by the programme had assisted their farming operations, and what challenges or difficulties they had encountered as a result of participating in the scheme. When selecting the interviewees, the author took care to ensure diversity among the respondents in terms of age, as well as the size of their agricultural holdings. This approach allowed to obtain a broader and more representative picture of the participants experiences with the programme.

## 3 RESULTS

Respondents considered the programme important, particularly valuing the additional area-based support it provides. According to their accounts, in the beginning of the programme they were initially met with some reservations and a degree of apprehension, especially concerning administrative burdens and potential inspections. In certain cases, farmers reported difficulties complying with the restricted list of plant protection products mandated by the programme. However, with adequate professional consultation and advice, they were able to manage these challenges. Overall, the interviewees expressed satisfaction with the amount of additional financial support received.

## 4 CONCLUSIONS

The interviewed farmers gained a wealth of experience during the previous AKG cycle. They faced numerous challenges, including technological ones, such as the use of a restricted list of plant protection products as required by the programme, as well as the preparations of a nutrient management plan and the need to comply with it throughout production. Initially, maintaining a farm logbook and managing the additional administrative burdens introduced under the programme proved to be challenging. However, with the help of adequate professional advice and consultancy, these difficulties were overcome. Participants received area-based payments in accordance with their commitments and expressed full satisfaction with the amount of support received. They also indicated a clear willingness to participate in future agri-environmental programmes.

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# THE IMPACT OF INNOVATION ON THE EFFICIENCY OF HEALTH EXPENDITURES IN HUNGARY

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**Keywords:** health Innovation, R&D strategy, PAM50  
JEL Classification: I11, I15, O31

## 1 INTRODUCTION

The goal of Hungary's Research, Development and Innovation Strategy (2021–2030) is to reach 3% of GDP by 2030 of the R&D expenditures and to be among the top 25 countries in the world by 2030 according to the Global Innovation Index (GII). Through the Neumann János Programme [1], the main objective of the Health priority is to stimulate the diffusion of innovative diagnostic technologies, therapeutic procedures and medical devices. The corresponding 2025 tenders should also consider Hungarian specificities to be effective.

## 2 MATERIAL AND METHODS

The authors have analysed the Hungarian innovation strategy, with a particular focus on innovations in the health sector. According to NRDI Agency, in 2025, the Life Sciences Catalyst programme will focus on health innovation, with a budget of €25 million (HUF 10 billion) to support preclinical development. The incubation of innovative hospital and clinical business ideas will be supported with a separate scheme for €5 million (HUF 2 billion) in 2025.

Health innovation is defined in the OECD edition of the Oslo Manual 2018 [2]: “An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)”. According to this new approach, the new or improved good or process is available to third parties on the market or already implemented by the developer. It does not automatically follow from this revised definition that there is a direct link between the number of licenses acquired by firms and product innovation, while the relationship between R&D investment and innovation at SMEs is strong [3].

The authors have analyzed the database of National Intellectual Property Office for patents from the last 20 years searching for nine keywords focusing on cancer (Hungarian and English), medical (Hungarian two synonyms and English), patient care, oncology (Hungarian and English), healthcare. Authors selected patents of the type „European patent in force“, which are typically filed by large companies operating in the European market. The applicants of domestic (inventors in their home country) protected patents are typically medical universities and large Hungarian registered companies (Richter Gedeon Nyrt., Egis Gyógyszergyár Zrt.). However, using the keyword “health”, authors found 500 patents, of which 201 are European patents in force, with the remaining 299 patents being filed by individuals in 164 cases, followed by SMEs and universities and large companies. The relationship between SMEs and innovation and the impact on their activities is largely debated and researched [4], but the specific presence of health innovation in the SME sector in the V4 countries has not been

studied in detail. According to a study related to SMEs life expectancy in health sector in V4 countries [5], this category of companies is standing on a stable footing, which is relevant from their capacity point of view of being actively involved in development of health innovations.

In Hungary, the number of new cases of malignant breast cancer in women is steadily increasing. While the number of new breast cancer cases per 100,000 inhabitants was 128.1 in 2007, preliminary data suggest that the number had risen to 168.7 in 2023 (National Cancer Registry). Early detection and treatment of breast cancer is a major burden for society, but the tools are already available on the market to help diagnosis and allow for more targeted and effective treatment. As a pilot project [6] authors have selected the Microarray 50 (PAM50) gene expression classifier utilized in breast cancer diagnosis. This is available on the Hungarian market, is strictly privately financed, and is not supported by the National Insurance House. A retrospective analysis of 36 patients was performed to see if the prognosis was different based on PAM50 and conventional immunohistochemistry (IHC).

### 3 RESULTS

PAM 50 and IHC subtype in 22 cases matched, in 7 cases PAM indicated a better prognosis, in 7 cases PAM50 indicated a worse prognosis. Based on the results of this genetic test the clinician can avoid the over- or under-treatment of the patient with chemotherapy. The 20% discrepancy registered by authors on this small sample is significant especially if one considers the side effects with its costs of the overtreatment of the patients and also the life expectancy of the patients in case of undertreatment.

The health sector is a strategic area for innovation for a sustainable future. Based on the data received, a more targeted design of the call for proposals is necessary to achieve the innovation strategy and increase the number of health innovations. The potential applicants should be extended to the SME sector, the targeted eligible developments are too limited from health innovation point of view, they should be modified to achieve the objectives, and the limit should not be set at supporting proof of concept results, but should be extended to the studies in the pre-clinical and clinical phase. These modifications can bring on one hand a positive cost/effect in shorter time, and on the other hand they can improve the value of the overall survival (OS) and the progression-free survival (PFS) indicators.

### 4 CONCLUSIONS

Overall, the research can contribute to the decision process of the decision makers to help them decide where and how much resources to allocate, to establish the most efficient use of the funds, the range of applicants and the activities eligible for funding. Especially in Hungary, the much-targeted health innovation is supported by the central budget, private sources are not prevalent.

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# SHARING ECONOMY AND ECO-MOBILITY: A CASE STUDY OF CAR SHARING IN HUNGARY

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**Keywords:** car sharing, sustainable urban mobility, eco-innovation, sharing economy  
**JEL Classification:** M31, L91, Q57

## 1 INTRODUCTION

The rapid expansion of urban populations and climate-related challenges have intensified the need for sustainable mobility solutions. As part of the broader sharing economy, car-sharing services provide an alternative to traditional car ownership while contributing to eco-mobility goals. This paper investigates how MOL Limo, a leading Hungarian car-sharing provider, contributes to sustainable urban transport and how its users perceive its environmental and practical benefits.

## 2 MATERIAL AND METHODS

The study combines secondary literature on the sharing economy, sustainable consumption, and urban mobility with primary research based on a questionnaire distributed to MOL Limo users via a dedicated online community. The survey explores usage patterns, satisfaction levels, and attitudes toward eco-conscious transportation. The data was analysed to uncover trends, challenges, and strategic implications for operators and policymakers.

## 3 RESULTS

Survey results indicate that MOL Limo users, primarily young urban professionals, view the service as an environmentally friendly and economically sensible option. The company's digital-first marketing strategy aligns well with the expectations of digital-native users. However, users expressed concerns over vehicle availability and service area limitations. The findings suggest that car-sharing may serve as a substitute for car ownership, especially in dense urban areas.

## 4 CONCLUSIONS

The case study highlights how car-sharing services can align with sustainability objectives by reducing carbon emissions, decreasing traffic congestion, and reshaping consumer behavior toward access-based mobility. MOL Limo's model offers actionable insights for urban planners and mobility providers aiming to design greener and smarter cities.

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# DIGITAL TRANSFORMATION PRACTICE IN CZECH COMPANIES

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**Keywords:** digitalisation, digital skills, online job advertisements (OJA), employee skills development, V4 countries

**JEL Classification:** J24, O15

## 1 INTRODUCTION

Digital transformation is one of the key topics that have shaped the landscape of today's business in recent years. Under the pressure of rapid technological development, companies across sectors are finding themselves in a situation where traditional approaches are no longer effective. The transition to digitally oriented control models, the automation of routine activities or the emphasis on data are now often a matter of survival in the market, not just a competitive advantage [1].

However, digital transformation cannot be understood as a mere implementation of new information technologies. It is a fundamental change in thinking about business processes, the way work is organized, people management and communication with customers [3]. The transformation thus affects the overall strategy of the company, its structure and corporate culture. At the same time, it is important to realize that digital transformation is not a one-time change, but a dynamic and often demanding process that often takes place in several stages. This process requires collaboration across levels of governance and faces a number of internal and external obstacles [4].

Therefore, this paper focuses on formulating recommendations for the appropriate digital transformation procedure in various corporate environments.

## 2 MATERIAL AND METHODS/MATERIÁLY A METODY

The research focuses not only on the conditions for the successful implementation of digital technologies, but also on the obstacles that companies face during the transformation. When analysing the research problem, the following research questions arise, which the authors further address:

- (1) What are the main factors influencing the course of digital transformation in companies?
- (2) What specific obstacles and barriers appear during the transformation?
- (3) How do companies approach change management related to digital transformation?
- (4) Which organizational processes have been most affected as a result of the transformation?
- (5) Which benefits do companies perceive as key in connection with digitalization?
- (6) Based on the findings, what recommendations can be formulated for companies in different stages of digital transformation?

The research is based on a combination of qualitative and quantitative approaches, with a multi-case study supplemented by a questionnaire survey at its core. This strategy makes it possible to combine a deeper understanding of specific cases with more general insights into broader business practice.

The qualitative part of the research is based on case studies of companies that are currently undergoing digital transformation or have recently implemented it. Thanks to the use of semi-structured interviews, it is possible to capture in detail the complexity of processes, the specifics of approaches, perceived barriers and the specific organizational impacts of changes on the daily operations in these companies.

The main limitation of the qualitative approach lies in the focus on specific organizations in specific conditions and sectors. Therefore, the results may not be generalizable to the entire spectrum of companies affected by digital transformation. For this reason, qualitative research is supplemented with quantitative research. The quantitative research consists of a questionnaire survey, which was distributed among a wider range of companies. This section serves to verify some of the initial assumptions that emerged from the interviews and to identify generally shared experience with the benefits and barriers of digital transformation.

The quantitative part has been supplemented with secondary data that come from available research, statistical overviews and studies of relevant institutions. This data was used to broaden the framework of the questionnaire survey and allowed the findings from primary data collection to be put in a broader context. This made it possible to better compare the specific findings of respondents with the state and development of digital transformation in the Czech Republic. The combination of qualitative and quantitative approaches makes it possible to combine in-depth understanding with a greater degree of general informative value, thus increasing the validity and practical applicability of the results.

The selection of organizations that were included in the qualitative part of the research was carried out by deliberate choice. The main criterion was relevant experience with digital transformation, especially a long-term experience. Companies differ in their size and focus. This approach allows for a comparison of different approaches, motivations and barriers across contexts. The criterion for inclusion in this part of the research was that the respondents met one of the following requirements:

- have implemented digitalization currently,
- actively consider digitalization,
- have already gone through the digitalization process.

The data analysis was carried out on two consecutive levels, corresponding to the qualitative and quantitative approach chosen for this research. Qualitative data, obtained through semi-structured interviews, was processed using thematic analysis. The aim of this method is to identify recurring patterns, themes, and meanings in respondents' answers. After transcribing the interviews, the data was carefully studied and then divided into analytical categories that corresponded with the main research questions:

- motivation for digitalization,
- benefits and obstacles to transformation;
- organizational impacts,
- Change management.

The formulation of the conclusions was based on a combination of the obtained results and professional literature. The results were continuously compared with existing research. In this way, a number of findings were created, on the basis of which recommendations for companies entering digital transformation were compiled in the design part.

### 3 RESULTS

The evaluation of the partial results of the analytical part, including secondary data, case studies and a questionnaire survey, shows that the approach of companies to digital transformation largely varies in the Czech environment. Nevertheless, recurring patterns can be found in the areas that companies are digitalizing, what benefits they expect and what obstacles they face. At the same time, there are noticeable differences that are related to size, industry, level of technological maturity or company culture.

The areas of digitalization in all parts focus primarily on administrative and support processes. This is confirmed by both the data from the questionnaire survey and the case studies. On the other hand, advanced technologies such as artificial intelligence or data analytics appear in data quite marginally, which is also confirmed by secondary research.

In terms of benefits, the same factors are repeated across the different parts: speeding up processes, increasing availability and data sharing, reducing errors and saving costs. These benefits were reported in all case studies, confirmed by a questionnaire survey and by secondary sources. From the point of view of the effect of digitalization, it is clear that the best benefits are achieved when the tools are well suited to the specific needs of the company.

However, obstacles and problems show higher variability. Secondary sources cite the lack of skilled workers, costs and the absence of a strategic framework as the main barriers [1]. These findings correspond with the results of the questionnaire survey, where the main problems were high costs, lack of competence and weak management support. In case studies, however, employee resistance appeared as a real factor (albeit overcome), while it was mentioned rather marginally in the questionnaire.

The attitude of employees also shows differences. While case studies report initial fears that have been gradually overcome, employee resistance is less common in the questionnaire survey and does not belong to the main obstacles. A possible explanation is the different position of the respondents. While case studies convey the experience of higher-level managers, questionnaire responses have been spread throughout the different levels of management structures. The strategic approach to digitalization is often referred to as insufficient in secondary data [3] and in the questionnaire survey. Companies usually do not have a clear plan, or are just preparing one. Therefore, it can be concluded that the strategic approach to digital transformation in the Czech environment arises over time rather than being clearly formed in advance.

There is a strong consensus on financing: most companies finance digitalization from their own resources – the questionnaire survey resulted in 87% of respondents, secondary data refer to 75%. Subsidies and loans are used only marginally, and trust in public support instruments is generally low. This can limit the scope of transformation, especially for smaller companies with limited budgets.

### 4 CONCLUSIONS

The experience of the analyzed companies shows that one of the most important prerequisites for successful digitalization is a thorough understanding of one's own functioning. Many companies tend to start by choosing a specific tool or looking for a supplier, even though they do not yet have a clear idea on what they actually need to improve [2]. This creates a significant risk that the chosen solution will not meet the actual needs, or that its implementation will lead to unnecessary complications. For example, companies deal with the implementation of a CRM system without first analyzing how their business process works, who works with the data, and what should be the goal of the change.

The analysis shows that digitalization in companies often takes place informally, without a strategic framework, but at the same time with a high level of internal motivation. Successful examples show that the key is not the size of the company or the amount of investment, but the ability to manage change well, understand own processes and involve employees in the transformation process. The quality of cooperation with the supplier and the way in which the company

evaluates the benefits of the adopted solutions also play an important role. On the other hand, the most common barriers include a lack of time, capacity and system access.

The essential contribution of the paper is determination of the specific conditions under which digital transformation can be functional in various corporate environments that do not have a specialized IT department. The paper also confirms that the theoretical concepts of change and innovation management have their place in practice if they are applied with regard to the specific context of the company.

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# PRESENTATION OF A MODEL FOR EXAMINING THE EFFECTS OF CHANGES IN THE TECHNOLOGICAL COMPOSITION OF NATIONAL ECONOMIC SECTORS ON EMISSIONS AND RETURNS

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**Keywords:** technological analysis, cost-benefit analysis, emission, return calculation.

**JEL Classification:** O21

## 1 INTRODUCTION

In the past decade and a half, the author and his co-authors have published several research papers and related articles on GHG calculations. One of these was a theoretical study that examined how the expected success of a GHG emission reduction project could be quantified. In this model, the authors combined the previous cost-benefit analysis methodology with a formula showing the effectiveness of a change, and proposed creation of a new formula [4]. This article was inspired by research that was taking place in parallel to the creation of the so-called carbon orientation matrix of national economic sectors, which can provide assistance in prioritizing decisions at a societal level. The summarization of the research at that time was never actually finished, so this article provides a retrospective summary that supports the justification for the creation of the new formula, thereby illustrating the possibilities of thinking about it further.

## 2 MATERIAL AND METHODS

The author's task was primarily to create the models necessary for the studies, his colleagues processed the necessary data and the results by sector. During the study, the author used the indicators of traditional investment economic studies (NPV, Payback-Time) and the cost-benefit (hereinafter referred to as C-B) study. The basis for creating the model was the establishment of technological variants and the direction and extent of possible changes in them. Therefore, first, a literature survey of this area and their practical comparison were carried out. The basis of the study was therefore the characterization of the technological composition of the given sector and the determination of its possible future development directions.

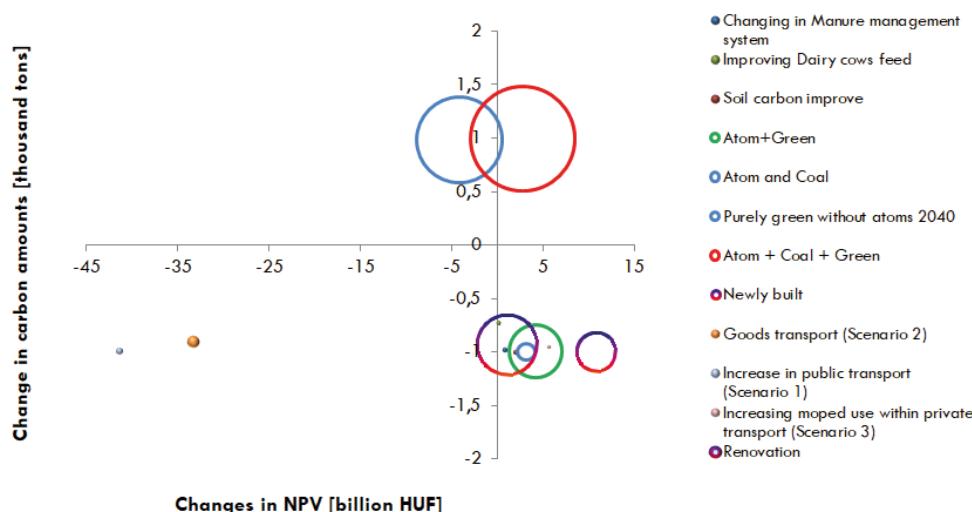
The basis of the studies were investment economics studies, so it was necessary to determine the method of time management. This can also be considered the first step, because the implementation and operation of development ideas in different branches of the national economy – and in the case of different technological variants – can be very diverse. Moreover, if we speak at the level of society as a whole, there may be a number of changes in the technological composition, the acceptance of which at the social level has raised additional problems. However, the research did not address the manageability of these problems at this stage, a possible solution to this was explained in an article of [5].

Based on his previous work, the author considered it appropriate not to use the formula of the classic investment economic analysis, but a formula system that follows the cost-benefit principle more closely, which he has used so far primarily in agricultural situations and models. Another very important aspect of this latter line of thought is the appropriate level of calculation of cost changes occurring in the technology operation phase.

The basis of the C-B formula was the assessment of current practice (BAU) and the determination of the items that change it per entity and per technology.

### 3 RESULTS

The diagram below shows a summary of the various planned versions.



**Fig. 1:** The different Hungarian Industrial Sectors final results about the possible actions for GHG reductions

The figure shows the changes in the composition of the agricultural sector, residential buildings, transport, primarily the public transport sector, and the results of the tests related to the electricity supply.

The figure explains the definition of the size of the circle, which actually contains an inverse interpretation. Here we can see the R+D+I demand of a thousand tons of CO<sub>2</sub> emissions change, i.e. it shows the investment demand of the given change. If we were to take the reciprocal value of the same indicator and form the figure in this way, the priority order of the individual sectors would become visible. But this was immediately accompanied by thoughts about whether the area that could be read from this inverted diagram should really be given priority (in this case, it would be the agricultural sector and public transport, which are typical areas in society where the implementation of changes encounters serious resistance).

### 4 CONCLUSIONS

The results presented above focused on determining the cost-benefit changes of each scenario variant, and were less concerned with their feasibility at a social level. The research team at the time also perceived this, but due to the time and budget available at the time, we were not able to address this issue. This was the reason for including the further consideration of the research at that time in the article. Indeed, it can be seen from the above results that those sectors are disadvantaged in which the risks of feasibility are lower and their degree of climate damage mitigation can be better determined.

A further result could be to supplement previous studies by preparing technology portfolio clouds for the given sector.

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# ASPECTS OF ESG REPORTING IN THE EU WITH REGARD TO A SUSTAINABLE FOOD CHAIN: CURRENT STATE AND NEAR-TERM VISION

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**Keywords:** ESG reporting, ESRS standards, CSRD directive, CSDDD directive

**JEL Classification:** Q01, Q56

## 1 INTRODUCTION

The European Commission has adopted a so-called “quick fix” to the first set of European Sustainability Reporting Standards (ESRS). The aim is to reduce administrative burdens and increase certainty for companies that must start reporting for the 2024 accounting period. Companies reporting for 2024 will not have to disclose certain information, such as the expected financial impact of certain sustainability risks. From 2025, these companies will be allowed to omit the same information for the financial years 2025 and 2026. This means that first-wave companies will not have to provide more data than in 2024. In addition, for 2025 and 2026, first-wave companies with more than 750 employees will have most of the same transitional exemptions (“phase in” measures) that previously only applied to smaller companies (up to 750 employees) [1]. Only 29% of companies, which are due to report ESG aspects, consider themselves ready for independently verified ESG data. The majority, 46%, are in the middle tier known as “advancers,” and the rest are “beginners” [2]. In the food chain related industries, this issue has an even stronger impact, as the production and distribution of food is closely related to the use of natural resources, health and safety of the population, as well as the functioning of local communities. Companies in this sector face pressure to use water wisely, reduce emissions and minimize food waste. At the same time, they must ensure ethical working conditions, all within the framework of intense global competition. This contribution aims to identify the current state and define a near-term vision in the context of the food chain in EU Member States.

## 2 MATERIAL AND METHODS

This article is a review type of contribution. It is based on theoretical foundations of ESG reporting in EU Member States and current knowledge regarding its implementation in business entities. Specific attention is paid to sectors linked to the food chain. Specifically, attention is paid to sectors linked to the food chain, currently valid legislation, and also available communications from EU bodies towards professional chambers and group of companies themselves in the role of mandatory entities for ESG reporting.

## 3 RESULTS

The Omnibus I package is a set of legislative changes adopted by the European Commission in February 2025. The aim of this package was to reduce the administrative burden for companies and make some EU rules more practical. One of the parts of this package was also a change in

the field of sustainability reporting (ESRS) – the so-called “stop the clock” directive. This directive specifically postponed the obligation to submit sustainability reports for companies that had not yet started (the so-called wave 2 and wave 3). Originally, these companies were supposed to start reporting in “wave 2” from the financial year 2025, “wave 3” from the financial year 2026. In view of the “stop the clock” directive, this reporting is being postponed by 2 years, namely “wave 2” from the financial year 2027, “wave 3” from the financial year 2028 [3].

Omnibus I contains (in addition to the „stop the clock” directive) as following. CSRD (Sustainability Reporting Directive) – thresholds for mandatory reporting are increased (obligation only applies to larger companies, e.g. over 1,000 employees), the number of mandatory data points is reduced and planned segment specificity is abolished. CSDDD (Sustainability Due Diligence Directive) - postponement of transposition and full implementation by one year, restriction of due diligence to direct suppliers only, inspection every five years instead of annually, loose requirements for climate plans (implementation steps only instead of full implementation), more discretion for member states in determining sanctions (removal of mandatory minimum). EU Taxonomy - the reporting obligation remains only for larger companies, reduction of the volume of required data by up to approximately 70%, introduction of a material activity threshold below 10% of turnover/assets/investments does not have to be reported. CBAM (Carbon Border Offset Mechanism) - postponement of the obligation to purchase CBAM certificates from 2026 to 2027, postponement of the reporting deadline from 31 May to 31 August, extension of the exemption for small import volumes (<50 tonnes per year), allowance of the use of standard emission values and easier declaration by third parties [4].

Objectives and significance of the package Omnibus I. Is is part of the EU Competitiveness Compass strategy, which aims to increase the competitiveness of the EU, simplify regulations and attract investment. It is estimated that businesses will save around €6 billion per year on administrative costs. The potential benefit for investment is in the tens of billions of euros (€40–100 billion according to various estimates) [5]. In particular, large corporations in the food industry have called on the European Commission not to allow the Omnibus package to mean reopening and renegotiating the basic directives (CSRD, CSDDD). They only support technical simplification. If the EU were to start fundamentally changing or repealing the rules now, there would be legal uncertainty and chaos, companies would have to rework entire processes and their investments might be wasted.

## 4 CONCLUSIONS

ESG reporting appears to be a specific direction of investment development for a company, which brings potential improvements in operational efficiency and corporate reputation, while the related impacts on investments capital expenditures are likely to be felt only in the medium to long term. For this reason, the early implementation of ESG measures can contribute to the creation of a strategic advantage for companies striving for sustainability, credibility and long-term competitiveness in food-chain related industries.

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# ARE WE EQUALLY DIGITAL? A COMPARATIVE ANALYSIS OF ONLINE JOB ADS IN THE V4 COUNTRIES

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**Keywords:** digitalisation, digital skills, online job advertisements (OJA), employee skills development, V4 countries

**JEL Classification:** J24, O15

## 1 INTRODUCTION

Digitalisation is one of the most influential processes of our time, fundamentally reshaping the economy, the labour market and our daily lives. It is not just a technological development, but also a profound social and economic change that brings with it new opportunities, but also serious challenges. This is a particularly important issue today, as global competition, the rapid flow of information and the pressure of automation are forcing both companies and individuals to adapt to the digital environment. Digitalisation is significantly changing the expectations placed on employees. Routine, repetitive tasks are increasingly being taken over by software and algorithms, while creative, problem-solving, collaborative and digital skills are becoming more valuable. It is important that employees develop their IT skills, learn how to use new platforms and tools and are open to lifelong learning. Those who can keep pace with technological developments can remain competitive in the labour market, while others can easily be displaced.

In this study, we seek answers to two research questions. Our first research question is whether there are differences or similarities in terms of digital skills between occupations in the V4 countries (Czech Republic, Hungary, Poland, Slovakia). Our second research question is whether there are patterns in digital skills between economic sectors in the V4 and EU27 countries.

## 2 MATERIAL AND METHODS

To answer our research questions, we collected data from the CEDEFOP website (<https://www.cedefop.europa.eu/en/tools/skills-online-vacancies>). CEDEFOP is the European Union's decentralised agency for vocational education and training. It supports EU policy makers in the development and implementation of VET policy. It monitors trends in the labour market and acts as a bridge between the world of learning and the world of work. Skills-OVATE is a joint project of CEDEFOP and Eurostat. Skills-OVATE provides information on job vacancies and the skills required by employers based on online job advertisements (OJA) in 27 EU countries and five other European countries. The data is collected from thousands of sources, including private job portals, public employment service portals, recruitment agencies and company websites. The database contains millions of job advertisements per year and is updated quarterly. Skills-OVATE classifies skills based on ESCO version 1.2.0 and occupations based on ISCO-08. In ESCO v1.2.0, the classification of skills follows a hierarchical structure.

In our study, we used data for the year 2024. The last data download was in June 2025. We downloaded occupational and sectoral data for the EU27 countries in Excel. In the case of occupations, the download was at four-digit ISCO depth. We were unable to download data for the wholesale and retail trade sector. After downloading the data, the database was sorted and cleaned. Our database contained four types of quantitative data. To make them comparable across countries and sectors, we created four indicators in the form of ratios. These were:

1. the share of digital OJAs in total OJAs;
2. the share of digital skills in all skills;
3. the number of skills per OJA;
4. the number of digital skills per digital OJA.

The analyses were carried out using MS Excel and SPSS. Pearson's correlation coefficient was used to calculate the correlation. In our cluster analysis, we included the four indicators we developed as variables and aimed to categorise occupations and sectors into clusters by country. We performed a hierarchical cluster analysis using the Ward method. The number of clusters was determined using a dendrogram. As we worked with more than two variables in each case, we used descriptive statistics to characterise the clusters.

### 3 RESULTS

To answer our first research question, we can say that for all four indicators there is no significant difference between the four Visegrad countries. So the ratio between digital ads and digital skills is almost the same, and the job ads published in 2024 contain almost the same number of skills and digital skills in one ad. For the first three indicators mentioned above, the V4 countries lag behind the EU average. This means that employers in the Visegrad countries post significantly fewer digital job advertisements, expect fewer qualifications and include fewer digital skills in them, or at least specify them in the job advertisements, than the EU average. We were also able to identify occupations in all four countries and in the EU27 that behaved identically in terms of digital expectations over the period analysed.

We analysed the four indicators above by country and by sector, forming clusters. The first cluster comprises sectors where OJAs contain relatively few qualifications and require fewer digital skills, such as construction, agriculture and education. The second cluster comprises sectors in which companies expect a relatively high number of qualifications, but the number of digital skills can be considered average, such as the finance and insurance sector. The third cluster includes sectors where OJAs are relatively short and contain few skills, but the number of digital skills is high, such as the infocommunications sector. There were also several sectors that were placed in different clusters in different countries, such as arts, entertainment and recreation, technology, engineering and R&D activities and property activities.

### 4 CONCLUSIONS

Digitalisation is not just a technical development, but a profound change in social and economic structures. Individuals and organisations that are able to adapt to this new world can gain a competitive advantage in the long term. This is why digitalisation is such an important topic today: not only the success of the present depends on it, but also that of the future. Digitalisation poses a twofold challenge for companies. On the one hand, they need strategies to effectively integrate digital technologies into their processes and, on the other, they need to ensure that their employees have the right knowledge and skills. The corporate culture must also adapt: Flexible working, the transition to remote working and data security issues are all factors that require a new mindset.

In our study, we sought to answer two research questions using four indicators based on data from the CEDEFOP database. Based on the statistical analyses performed, we found that there are no significant differences between the four V4 countries in terms of the number and proportion of qualifications and digital skills listed in job advertisements, but differences can

already be observed when compared to the EU average. In the sectoral analysis, we conducted a cluster analysis for all four countries and the EU27. We identified the sectors that fall into the same cluster in the Visegrad countries and the sectors that do not show the same patterns.

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# SUSTAINABLE TOURISM IN ASIA: A BIBLIOMETRIC ANALYSIS OF RESEARCH TRENDS AND THEMATIC EVOLUTION

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**Keywords:** Sustainable tourism, Asia, bibliometric analysis, research trends.

**JEL Classification:** Q01, Q26, R5

## 1 INTRODUCTION

Asia is one of the most exciting places in the world for tourism to grow because of its rich cultural legacy and biodiversity [1]. Sustainable tourism has been more popular in recent years as a way to conserve the environment, preserve culture, and promote economic growth at the same time [2, 3]. Many research have looked at sustainable tourism in Asia, but there hasn't been a full quantitative review of the scientific literature in this area yet [4]. This study uses bibliometric analysis to look at how sustainable tourism studies in Asia have changed, what trends have emerged, and how research has been done over the past ten years to fill this gap.

## 2 MATERIAL AND METHODS

This study used a bibliometric analysis method to look at the academic writing on sustainable tourism in Asia in a systematic way. Bibliometric analysis is a type of quantitative study that looks at how often things are published, how often they are cited, and how research is changing in a particular academic discipline.

The Scopus database, which is one of the biggest and most dependable places to get peer-reviewed academic papers, was used to get the data for this study. The search used the phrases "sustainable tourism" AND "Asia" and looked for them in the title, abstract, and keywords boxes. The search only looked at articles produced in English between January 2014 and May 2025. After going through and getting rid of records that weren't useful, 224 documents were chosen for study.

We exported the data we obtained in CSV format and then used VOSviewer version 1.6.19 and the Bibliometrix R-package in R to process it. Some of the bibliometric indicators looked at were:

- (1) The number of publications each year
- (2) The writers, institutions, and nations that write the most
- (3) Articles and publications that are often cited
- (4) Patterns of keyword co-occurrence
- (5) Analysis of collaboration networks

Thematic mapping and trend topic analysis were also done to find the most important research groups and new subjects in the area. We also used data visualization methods like co-authorship and keyword co-occurrence networks to look at how people work together and how ideas are organized in the field of sustainable tourism research in Asia.

This strategy helped us learn a lot about how sustainable tourism research has grown and changed in the area over the previous ten years.

### 3 RESULTS

The bibliometric analysis revealed a significant increase in research output on sustainable tourism in Asia over the past decade, with publication numbers rising notably after 2018. The highest volume of publications was recorded in 2024, reflecting growing scholarly and policy interest in sustainable tourism, particularly in response to global challenges such as the COVID-19 pandemic and the implementation of the Sustainable Development Goals (SDGs).

Analysis of country contributions indicated that China, Malaysia, Thailand, and India were the most productive nations in this research domain. The most influential academic journals publishing sustainable tourism studies in Asia included the *Journal of Sustainable Tourism*, *Tourism Management*, and the *Asia Pacific Journal of Tourism Research*.

Thematic mapping illustrated a research evolution from earlier emphases on ecotourism and heritage conservation toward contemporary issues such as climate change adaptation, digital tourism services, and inclusive tourism models. Collaboration network analysis indicated a notable strengthening of international partnerships, particularly between Asian institutions and European universities, accompanied by a growing number of multi-country research projects in recent years.

### 4 CONCLUSIONS

This bibliometric study provides a systematic and quantitative overview of the research landscape on sustainable tourism in Asia from 2014 to 2025. The results highlight key trends, active research hubs, and dominant thematic focuses within the field. Notably, there has been a clear expansion of research attention toward community engagement, environmental management, and resilience strategies in the context of post-pandemic recovery and global sustainability priorities.

The findings suggest that future research should further explore cross-cutting themes such as digital transformation in tourism, climate resilience strategies, and socio-economic inclusivity. Moreover, strengthening international academic collaboration and enhancing policy-research linkages will be essential to advancing sustainable tourism practices and governance models across Asia.

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# COOPERATING ON NATURAL RESOURCE COMMUNITIES: HOW INFORMATION INFRASTRUCTURES INFLUENCE BELIEFS FORMATION

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**Keywords:** common resources, information infrastructure, cooperation, belief.

**JEL Classification:** M10

## 1 INTRODUCTION

Building upon prior research [1], we know that cooperation [2], or shared values, may be insufficient for fostering collaboration around natural resource commons; actors also need information that enables them to coordinate their actions. Specifically, when actors are provided with an infrastructure that enables shared situational awareness (specifically pertaining to the state of the commons, as well as others' likely future actions), they are generally better able to organize consumption in a sustainable fashion.

What remains unclear is how, at the individual level, actors experiencing suppressed demand for a common good, such as electricity in an off-grid renewable energy system in a remote area, adjust their beliefs (i.e. knowledge, values, and expectations [3,4]) about cooperation in response to specific types of information.

## 2 MATERIAL AND METHODS

To examine the effect of information infrastructures on the evolution of beliefs, we conducted two studies in Colombia, including a total of 416 participants: (1) a laboratory experiment with university undergraduates and (2) a lab-in-the-field experiment with residents of a geographically isolated island community. Both studies used an electricity resource commons game, where a four-person community group shared the electricity during the night and independently decided how much electricity to request for their household, without any communication, based on their electricity needs and the total electricity available to all members. If everyone acted cautiously, the electricity would suffice for all essential functions. However, over-consumption by one or more members resulted in shortages.

The game lasted 17 rounds (nights). At the end of each round, participants received feedback through one of two experimental conditions to which they were randomly assigned: one providing aggregated information about others' decisions (i.e. total requested electricity), while the other offering disaggregated information (i.e., detailed information about the others individual request for electricity). These two feedback conditions enabled us to compare, using panel regression models, how different information infrastructures shape beliefs about others' behavior and, in turn, one's cooperative behavior over time.

### 3 RESULTS

In both the laboratory and lab-in-the-field experiments, participants who received disaggregated feedback were more strongly influenced by their prior beliefs about others' consumption than those who received aggregated feedback. However, disaggregated feedback led to less cooperative belief updating. Given equivalent prior beliefs, participants in the disaggregated condition consistently held higher current beliefs about others' electricity consumption than those in the aggregated condition. This suggests that access to detailed individual-level information may have increased perception of overconsumption by others, potentially justifying over-requesting electricity themselves.

### 4 CONCLUSIONS

This study demonstrates that the effectiveness of information infrastructures in fostering cooperation depends on their specific design, particularly the level of detail provided about others' decisions. Across two different contexts, we found consistent patterns. Both feedback information infrastructures conditions prompted belief updating, as they provided information about the system's state by revealing the outcomes of one's own and others' actions, which in turn shaped participants' beliefs [5].

Disaggregated feedback information led to shifts in beliefs in a less cooperative direction. In particular, disaggregated information may increase participants' attention to discrepancies between their own beliefs and those of others, weakening their belief that cooperation (i.e., requesting a fair share) can adequately satisfy their own consumption needs. In contrast, aggregated information may reduce these differences and instead foster belief updating that promotes more cooperative decisions.

These findings highlight underlying cognitive differences in how individuals attend to, process, and represent information about future alternatives, differences that align with early insights from the Carnegie School tradition [6].

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# CONFERENCE PROGRAMME

**WEDNESDAY, SEPTEMBER 10, 2025**

**09:30 Conference registration - foyer of building Q**

**10:00 Plenary session**

Moderator: Sylvie Formánková

Welcoming Remarks: Svatopluk Kapouněk (Dean, FBE MENDELU)

Keynote Speakers:

Miroslav Londýn, South-Moravian Innovation Center: *Building Sustainable Innovative Environment*

Alvin Korčák, Impact hub: *Co-working, PurposeTech, Impact, and Sustainability*

László Péter Juhász, Anna Dunay, John von Neumann University, Budapest: *From Compliance to Resilience: ESG Reporting as Strategic Imperative in Hospitality*

Sylvie Formánková, FBE MENDELU: Sustainable academic impact

**12:00 Lunch (Q foyer)**

**13:00 Parallel Sessions 1 (5<sup>th</sup> floor)**

**A1 (Q41): Management, Entrepreneurship & Digitalization**

Chairs: Dorota Jelonek + Noémi Hajdú

Zoltan Pocsaji: *Which strategy is better in telecommunication from finance perspective*  
Dorota Jelonek, Narendra Kumar, Leszek Ziora: *The applicability of deep learning networks in brand management*

Csaba Szuda, Anna Dunay: *The Role of Quality Management Systems in the Digital Era*

Zoltan Musinszki, Erika Horvathne Csolak, Noémi Hajdú, Klara Szucsne Markovics: *Are We Equally Digital? A Comparative Analysis of Online Job Ads in the V4 Countries*

Máté Neményi, Rania Boukhchim, Gergő Thalmeiner, Zoltán Zéman: *Theoretical approach of capital adequacy in investment bank: regulation, risk and management*

Attila Szekeres, Gabor Guta, Szabolcs Marien, Henriett Karolyi: *Extended Data Monetization Framework for Optimal Strategy Selection*

**B1 (Q43): Knowledge Management & Innovation Management**

Chairs: Zuzana Kapsdorferová + Ilona Gál

Dominika Čeryová, Zuzana Kapsdorferová, Matej Čereš, Šimon Štráma: *Evaluation of eco-innovations and the Eco-innovation Index and their importance in the food industry*

Zuzana Kapsdorferová, Dominika Čeryová, Šimon Štráma, Matej Čereš: *Innovation approaches to sustainable and responsible farm management*

Agnes Jakab, András Vér, Csaba Bálint Illés: *Innovation and knowledge transfer in agriculture: the role of the AKIS system for sustainable development*

Ilona Gál, László Pataki: *The impact of innovation on the efficiency of health expenditures in Hungary*

Anna Karczewska, Katarzyna Kukowska, Sebastian Skolik: *Cultural dimensions as variables shaping the activity of members of virtual Communities of practice. A case study of Wikimedia projects*

Zoltán Kovács, Anna Dunay, Mónika Hoschek: *The money management habits of Hungarian secondary school graduates*

**C1 (Q44): Current Trends in Human Resources Management**

Chairs: Anna Albrychiewicz-Słocińska + Hana Stojanová

Aleksandra Czarnecka, Anna Albrychiewicz-Słocińska: *Employer Branding as a modern tool for acquiring and retaining employees*

Zsuzsanna Orban, Attila Komlósi: *Evaluating Knowledge Management Maturity with Fuzzy Logic: Exploring AI-Augmented Models for Organizational Insight*

Emőke Szűcs-Kanda, Viktor Kéri, Adrienn Bartha: *Psycho-terror at work or the hidden factor threatening competitiveness (generation and gender aspects)*

Izabela Krauze: *The characteristics of modern leadership: defining the leader of the future*  
Tamás Glázer, Csaba Bálint Illés: *The Labour Market Adaptability and Situation of “New Tourism” after the Pandemic*

Ildikó Éva Kovács, József Poór, Tamás Glázer: *The strategic role of human resource management in Central and Eastern Europe in comparison with international trends*

#### **D1 (Q45): Social Responsibility and Sustainability**

Chairs: Sylvie Formánková + Felicjan Bylok

Mária Roberta Nagy, Anna Dunay: *Comprehensive Corporate Social Responsibility: bibliometric review*

Felicjan Bylok: *Socially responsible behaviour of Polish consumers*

Md. Tota Miah: *CSR as a pathway to SDGS: how banks are financing sustainability challenges in Bangladesh*

Alexandra Valencia Zapata, Erik Reimer Larsen, Dorthe Dojbak Hakonsson, Kyosuke Tanaka: *Cooperating on Natural Resource Communities: How Information Infrastructures Influence Beliefs Formation*

Hau Pham Thi, David Lorant Denes: *Sustainable tourism in Asia: a bibliometric analysis of research trends and thematic evolution*

Henriett Karolyi, Antal Martzy, Anna Dunay: *Prisma methodological analysis by the long-term impact of ESG, green lending, and consumer subsidies on sustainable supply chains and financial risks*

#### **E1 (Q46): Animal Welfare & Plant Production Management**

Chairs: Szilvia Vetter + Attila Kovács

Endre Akos Papp, Szilvia Vetter, Anna Dunay: *ZOO alliances: a special case of cooperation in restricted oligopolistic market structures*

Szilvia Vetter, Evelin Ritó, Anita Paulovics: *Fostering Sustainable Animal Protection Through Netnography: Insights from Hungarian Online Discourses*

Kristóf Attila Varga, Anna Dunay, Márton Battay: *Between Tradition and Transformation: Animal Welfare and Ethical Question in the Hunting Authorities*

Orsolya Horváth, Dóra Menich: *Cat-keeping habits in Hungary*

Hedvig Dóra Koska, Szilvia Vetter, Csaba Bálint Illés: *Developing Educational Tools for the Prevention of Childhood Animal Cruelty: A Criminological and Pedagogical Approach*

Saule Kargabayeva, Gulnar Taikulakova, Olga Verbovaya, Aigul Kairambayeva, Gauhar Bazarhanova, Laura Bayadilova: *Development of manufacturing industry and the impact of investments in human capital on economic growth*

#### **F1 (Q48): Sustainable Management & Marketing Strategies**

Chairs: Ilona Pawełoszek + Anna Dunay

Gábor Zoltán Megyeri, Bálint Csaba Illés: *The challenges of ESG/CSRD reporting obligations for insurers*

Henriett Karolyi, Antal Martzy, Anna Dunay: *Fuzzy logic methodological analysis of data-driven decision making and artificial intelligence modelling in clinical environments*

Richard Laszlo Hadadi: *Sharing Economy and Eco-Mobility: A Case Study of Car Sharing in Hungary*

Éva Bognár, Mónika Hoschek, Anna Dunay: *Experiential Agritourism: A Case Study of Mediterranean Plant Production in Hungary*

Łukasz Skiba: *Psychological aspects of change management in organizations pursuing sustainable development*

Ilona Pawełoszek: *The Dark Side of Drone Deliveries: Security, Privacy, and Public Perception*

**15:00 Coffee Break (Q42)**  
**15:30 Departure for excursion to VIDA! Science center**  
**18:00 Conference reception in the university campus (student caffeteria)**

## THURSDAY, SEPTEMBER 11, 2025

### 09:00 Parallel Sessions 2 (5th floor)

#### **A2 (Q41): Management, Entrepreneurship & Digitalization**

Chairs: Miklós Darócz + Renata Kučerová

Umidakhon Narimanova: *To rank or not to rank: the global obsession with world-class university status*

Ebrahim Mirzaiee-Asrami, Sahab Alkhali, Miklós Darócz: *Lean Techniques in a Vegetable Oil Refinery for a Sustainable Production*

Mercy Minoo Kavele, Dorota Jelonek, Csaba Balint Illes: *Green manufacturing through digital transformation: trends and challenges*

Győző Bencsik, László Pataki: *The Impact of Cognitive Biases on Investment Decision-Making Using Thaler's Smart Programme*

#### **B2 (Q43): Knowledge Management & Innovation Management**

Chairs: Anna Dunay + Radovan Kožíšek

István Gábor Zsarnay, Mihály Hegedűs, Anna Dunay: *Quality signals in early-stage venture capital decision-making in the age of AI*

Tivadar Zakár, László Pataki, Tibor Tatay: *Changes in systematic risk and their impact on the value of Central and Eastern European public stocks in the aftermath of the Russian-Ukrainian war*

Attila Komlósi, Zsuzsanna Orbán: *Two-dimensional performance-related compensation system for blue-collar workers in manufacturing companies*

Jiří Duda, Eva Štarhová, Pavel Žufan, Radovan Kožíšek: *Impacts of the Covid-19 pandemic on the small and medium-sized enterprises in the brewing industry and recommendations for future crisis situations*

#### **C2 (Q44): Current Trends in Human Resources Management**

Chairs: Csaba Bálint Illés + Pavel Žufan

Csaba Bálint Illés, Anna Dunay, András Bitsánszky, Attila Korenka: *The food service improving its quality in school catering innovation process*

Balázs Mayer: *The spillover effect: how the new us tariffs might reshape southeast asia's economic integration and value chains?*

Adrienn Juhás: *Recycling strategies in the manufacturing industry: Advancements and best practices*

Khalil Bourgou, Anna Dunay, Katalin Lipták: *Skill Mismatch in the Digital Economy: A Scientometric Analysis Using Eigenvector Centrality*

#### **D2 (Q45): Regional Development Management**

Chairs: Leszek Cichobłaziński + Sylvie Formánková

Sidney Soares Filho, Leszek Cichobłaziński: *Culture, law and mediation: social perceptions in the resolution of conflicts in Brazil and Poland*

Ildikó Dósa, Csaba Bálint Illés, Péter Balogh: *Exploring the Contribution of Active Tourism and Ecotourism in Forests to the Sustainable Development of Local Communities*

Nikolett Faragó, Anna Dunay, Róbert Magda: *Agri-environmental support from the farmer's side*

Nour Alkilani, Csaba Bálint Illés: *Transitioning to a Green Economy in Central Europe: A Systematic Review of Regional Development Strategies in Hungary and Poland*

**E2 (Q46): Strategies Towards Circularity**

Chairs: Robert Magda + Péter Balogh

Matěj Křížek, Veronika Žišková, Jan Vavřina: *Aspects of ESG reporting in the EU with regard to sustainable food chain: Current state and near-term vision*

Gábor Papp, Róbert Magda: *The role of circular economy in the EU's strategy for critical raw materials*

Péter Balogh, Peter Czine, Peter Lengyel, Gergely Balogh: *How do the Hungarian players decide? Consumer preferences for video games.*

Attila Zsolt Kovács: *Presentation of a model for examining the effects of changes in the technological composition of national economic sectors on emissions and returns*

**F2 (Q48): Sustainable Development of Organizations**

Chairs: Helena Chládková + Leszek Ziora

Csaba Bálint Illés, Viktor Forian-Szabo, László Pataki: *Insuring the Future: Institutionalising Agrarian Risk Governance in Central Asia for Sustainable Development*

Robert Janik: *The Importance of Ecological Awareness of Mankind in the Process of Sustainable Development*

Tomáš Dania, Renata Kučerová, Helena Chládková, Sylvie Formánková: *Social capital in organizations: Relevance and application of theory to employee relations in today's work environment*

Anna Albrychiewicz-Słocińska, Aleksandra Czarnecka: *Recognition as element of Total rewards model*

**10:30 Coffee Break (Q42)**

**11:00 Closing plenary – best paper award & ICOM 2026 invitation (Q43)**

Best papers:

Anna Karczewska, Katarzyna Kukowska, Sebastian Skolik: *Cultural dimensions as variables shaping the activity of members of virtual Communities of practice. A case study of Wikimedia projects*

Mercy Minoo Kavele, Dorota Jelonek, Csaba Balint Illes: *Green manufacturing through digital transformation: trends and challenges*

Tivadar Zakár, László Pataki, Tibor Tatay: *Changes in systematic risk and their impact on the value of Central and Eastern European public stocks in the aftermath of the Russian-Ukrainian war*

**12:00 Lunch (Q42)**

**13:00 End of the Conference**



**ICM**  
**2026**

**14<sup>th</sup> INTERNATIONAL  
CONFERENCE ON MANAGEMENT**

June 11-12  
Budapest  
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Title: 13<sup>th</sup> International Conference on Management  
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