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Immersive marketing for universities as a tool to promote education product¹

Nadiia Artyukhova - Oleksandr Dluhopolskyi²

Abstract

This study explores the potential of immersive marketing technologies for promoting educational services. We analyze the benefits of immersive marketing for brand perception, customer engagement, and data-driven insights. Bibliometric analysis reveals a connection between immersion and university marketing strategies. We propose the integration of immersive marketing (VR, AR, interactive experiences) to enhance engagement, understanding, and retention among potential students. Specific benefits include creating compelling narratives, personalized learning experiences, and real-world simulations. These strategies can increase brand awareness, differentiate institutions, and generate valuable user data to optimize marketing efforts. Challenges include technology accessibility, content development costs, and staff training on immersive technologies. Overcoming these challenges allows educational institutions to leverage immersive marketing for a competitive advantage in attracting and retaining students.

Key words

Marketing, University, Educational Product, Immersion

JEL Classification: H52, M31, M38

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Introduction

Marketing is no longer a mere promotional tool for universities; it has evolved into a strategic imperative. In an increasingly competitive higher education landscape, effective marketing is crucial for attracting top-tier students, securing adequate funding, and maintaining a solid institutional reputation. By understanding and addressing key marketing issues, universities can optimize enrollment strategies, enhance brand awareness, and ultimately achieve their mission of providing high-quality education.

In today's digital age, universities must adapt to prospective students' changing needs and preferences. This necessitates a comprehensive marketing approach that incorporates traditional and digital strategies. Universities can effectively leverage various marketing

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channels to reach a wider audience, engage potential students, and build lasting relationships.

Moreover, marketing plays a vital role in attracting and retaining faculty. A strong university brand can attract talented faculty members passionate about teaching and research. Additionally, effective marketing can help universities build strong partnerships with industry, government, and alumni, fostering collaboration and securing funding opportunities.

One of the ways to attract customers to sell a product successfully is to use immersive marketing.

What is immersive marketing? Let's link to AI.

"Immersive marketing is a contemporary marketing strategy designed to create engaging and memorable consumer experiences by fully immersing them in a brand's narrative. This approach leverages various technologies and creative techniques to engage multiple senses, fostering deeper emotional connections and enhancing brand loyalty. At its core, immersive marketing aims to envelop consumers in a multi-sensory experience beyond traditional advertising. By utilizing virtual reality (VR), augmented reality (AR), interactive installations, and live events, brands can create environments where consumers can actively engage with products and services. The primary goal is to make the brand experience more memorable, allowing consumers to feel like they are part of the brand story rather than mere spectators." (Perplexity, <https://www.perplexity.ai/>, on the query "Immersive marketing. Write to me about this.").

Integrating immersive technologies in higher education is increasingly recognized as a transformative approach to enhancing educational quality. Immersive technologies, particularly VR and AR, have been shown to significantly improve learning experiences by providing interactive and engaging environments. Au emphasizes that VR can be a powerful educational tool that complements traditional learning methods rather than replaces them (Ho-Au & Lee, 2017). This sentiment is echoed by Ryan et al., who found that immersive technologies increase student satisfaction and engagement, thereby improving learning outcomes compared to conventional educational modalities (Ryan et al., 2022). Furthermore, immersive environments facilitate experiential learning, which is crucial for skill acquisition in fields such as healthcare and engineering (Buragohain et al., 2023). The effectiveness of immersive technologies is also supported by studies demonstrating their ability to stimulate emotions and enhance cognitive engagement. Lie et al. highlight that VR applications can improve knowledge acquisition by creating emotionally resonant learning experiences (Lie et al., 2023). Similarly, Huang et al. discuss how students' learning styles and sense of presence in VR environments significantly influence learning outcomes (Huang et al., 2019). These findings suggest that immersive technologies enhance engagement and cater to diverse learning preferences, making education more inclusive.

However, we are not only talking about immersive technologies as a tool in the educational process.

What is immersive marketing in the promotion of educational products? Let's link to AI again.

"Immersive marketing for universities involves using technologies like virtual reality (VR), augmented reality (AR), and 360-degree videos to create engaging and interactive experiences for prospective students. By immersing potential students in the university experience, institutions can significantly enhance their brand image and attract a wider audience. By leveraging immersive marketing, universities can differentiate themselves from

competitors, create lasting impressions, and ultimately attract a new generation of students. "(Gemini, <https://gemini.google.com/>, on the query "What is immersive marketing for university? ").

Onopriienko et al. (2023) discuss the role of immersive technologies in adult learning, presenting them as innovative marketing tools within the educational market. They argue that such technologies enhance the learning experience and serve as effective marketing strategies for educational institutions, attracting a wider audience and improving enrollment rates. The authors emphasize the need for educational marketers to adopt these technologies to remain competitive in a rapidly evolving educational landscape.

Alfaro et al. (2019) provide a comprehensive overview of immersive technologies in marketing, proposing a software architecture that can be utilized in various sectors, including hospitality. Their research highlights the importance of creating personalized experiences through immersive technologies, which can significantly enhance customer satisfaction and engagement. The proposed architecture bridges the gap between consumer expectations and actual experiences, fostering a more effective marketing approach.

The article by Almeida and Buzády (2023) investigates the influence of severe games on the academic success of entrepreneurship students. The study employs a mixed methods approach, combining quantitative and qualitative data to assess how the serious game FLIGBY affects the development of both hard and soft skills among students. The findings suggest that serious games can significantly enhance students' engagement and learning outcomes, thus positively impacting their academic performance in entrepreneurship courses.

In the review by (Yung et al., 2020), the authors explore virtual reality (VR) integration in tourism marketing. They highlight the potential of immersive technologies to evoke strong emotional responses, which are crucial for influencing consumer intentions and behaviors in the tourism sector. This work underscores the transformative potential of these technologies in reshaping the landscape of tourism marketing.

Luangrath et al. (2022) discuss the vicarious haptic effect in digital marketing and virtual reality. Through a series of studies, they demonstrate that the experience of observing product touch in VR can enhance consumers' psychological ownership and product valuation. This finding underscores the importance of tactile experiences in digital marketing, suggesting that incorporating touch elements can significantly influence consumer perceptions and behaviors.

Frechette et al. (2023) examine the role of immersive technology, specifically 360-degree video and virtual reality, as tools for social marketing. Their study investigates how different media modalities influence participants' intent to help and attitudes toward the homeless. The results indicate that immersive technologies can significantly enhance the effectiveness of social marketing campaigns by fostering empathy and encouraging pro-social behavior, thus demonstrating the potential of these tools in addressing social issues.

Buhalis et al. (2023) discuss the disruptive potential of the metaverse in revolutionizing tourism management and marketing. They argue that the metaverse can transform how tourism experiences are designed and delivered, offering new opportunities for engagement and interaction. The authors emphasize the need for tourism marketers to adapt their strategies to harness the unique capabilities of the metaverse, thus positioning it as a critical area for future exploration.

Loureiro et al. (2021) focus on using VR and gamification in marketing higher education institutions. The authors review existing research on this topic and identify potential future research directions. Their analysis explores how VR and gamification can be leveraged to attract and engage prospective students.

Rathore (2018) delves into the concept of metaverse marketing. It explores the challenges, opportunities, and strategic approaches associated with marketing within the metaverse, a virtual reality space where users can interact with each other and digital objects. The article focuses on the potential impact of metaverse marketing on various industries, including education.

De Regt et al. (2021) explore using VR marketing to cultivate customer advocacy. The authors argue that VR experiences can transform marketing from storytelling to "story-doing," allowing customers to engage with a brand actively. While the article focuses on customer advocacy in a general business context, its insights could be relevant to educational institutions looking to develop immersive virtual experiences for prospective students.

Sung (2021) examines the effectiveness of AR mobile app advertising as a viral marketing tool. The author explores how AR, which overlays digital information onto the real world, can create shared social experiences that encourage users to share their experiences with others, potentially leading to widespread brand awareness. While the study focuses on mobile app advertising, the core concept of AR could be applied to educational contexts to create interactive learning experiences that students might share with peers.

The article's main purpose is to explore the potential of immersive marketing technologies in education, particularly for promoting educational products. The authors delve into the impact of these technologies on consumer behavior, brand perception, and learning experiences. They discuss how immersive marketing can enhance engagement, foster empathy, and drive innovation. Additionally, the article highlights the importance of understanding and adapting to the evolving landscape of immersive technologies to remain competitive and relevant in the digital age.

1 Methodology

This paper used bibliometric analysis to analyze the main determinants of immersive marketing as a university strategy. The dataset for bibliometric analysis was obtained from the query "immerse*" from the Scopus database (<https://www.scopus.com/>). Bibliometric analysis tools – VOSviewer (<https://www.vosviewer.com/>). The main task of bibliometric analysis is to identify clusters that characterize the interconnection between immersion and university marketing politics.

Total number of articles in dataset: 182480.

Time frame: 2021-2024 (November 21).

Subject area: Economics, Econometrics, Finance; Business, Management and Accounting. The branches of knowledge that use immersion to promote an educational product and assess its economic efficiency were selected for the analysis.

Number of articles for analysis after limitation: 1945.

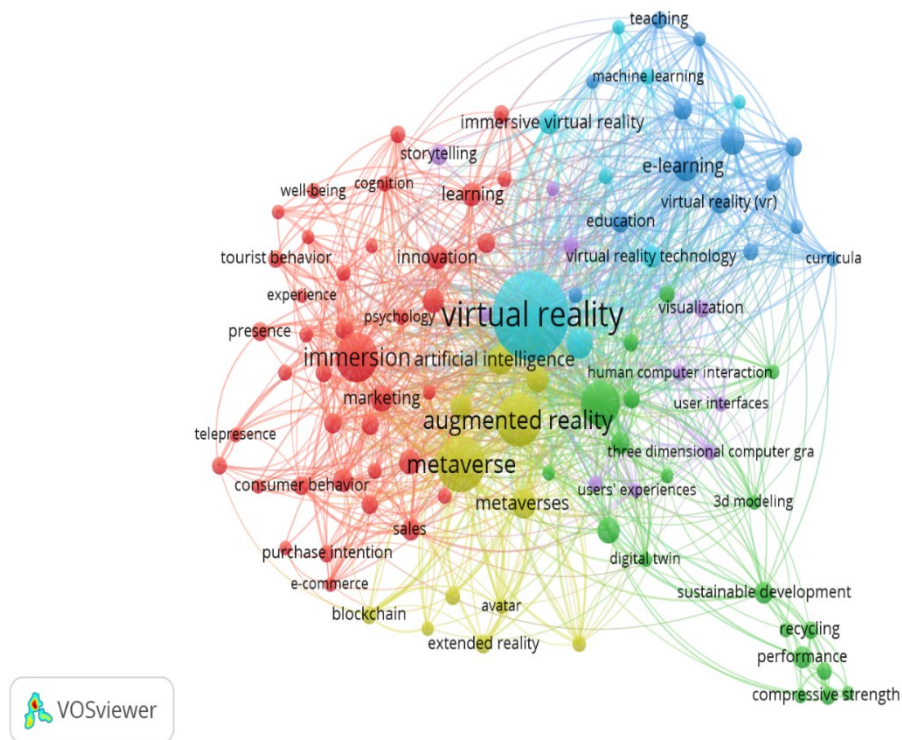
Total number of keywords: 9507.

Frame of keywords for analysis: top 1% by prominence (128 keywords, number of occurrences not less than 10).

2 Results and Discussion

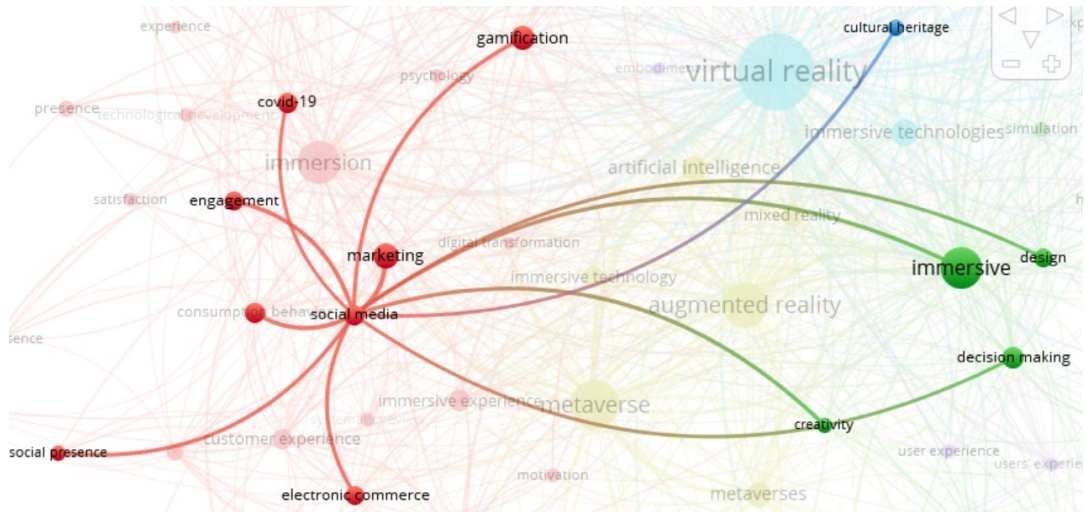
For analysis, a keyword map is used (Figure 1), which is divided into separate units (Figures 2-4).

Fig. 1 Bibliometric analysis: topic wheel on demand "immerse*" (database – Scopus, tool – VOSviewer, 2018-2024)



There is "virtual reality," the largest and most prominent node, serving as the core hub that connects a variety of related concepts at the center of the unit "marketing" (Figure 2). Adjacent to VR are significant themes like "immersive technologies" and "artificial intelligence," which highlight the technological advancements enhancing virtual experiences. Other major nodes include "augmented reality" and "metaverse," demonstrating their interconnectedness with VR and shared applications in digital ecosystems and immersive environments. "Marketing," another central term in the "red" unit, is strongly linked to consumer-related themes, indicating its importance in research on the commercial applications of these technologies.

Fig. 3 Bibliometric analysis: topic wheel on demand "immerse*," unit "social media" (database – Scopus, tool – VOSviewer, 2018-2024)



The network unit in Figure 3 highlights central nodes like "virtual reality," "marketing," and "immersive," which serve as key hubs linking related concepts and themes.

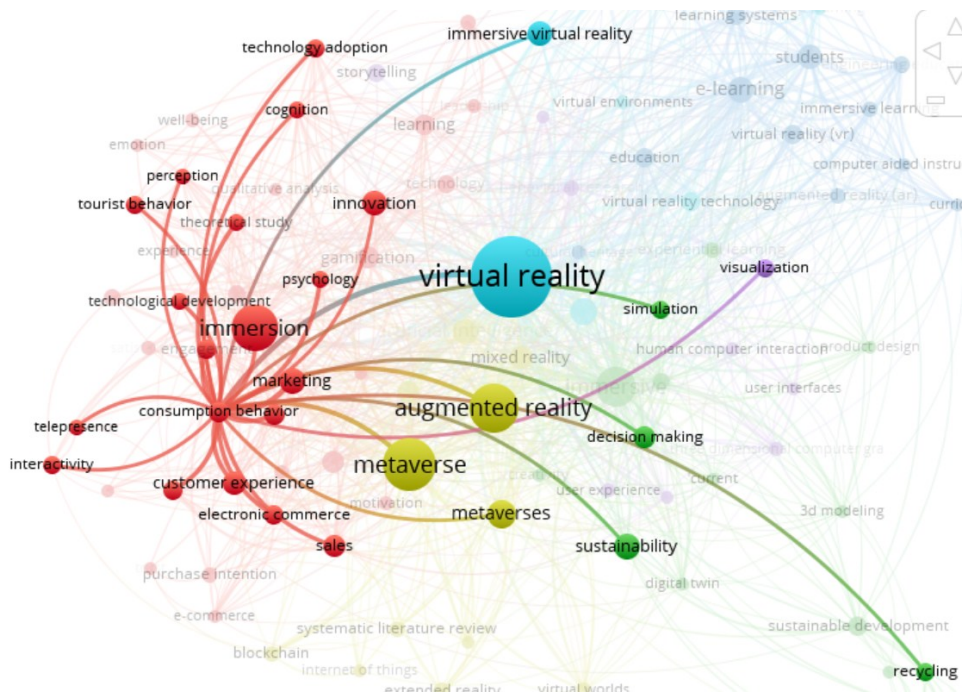
The "red" part is focused on marketing and engagement, emphasizing the role of immersive technologies in shaping consumer experiences. "marketing" is the most prominent node in this part, directly connected to related terms such as "immersion," "engagement," "social media," "gamification," and "electronic commerce." These connections suggest a strong emphasis on how immersive technologies, including virtual reality and augmented reality, are being utilized to enhance consumer interaction and create engaging marketing strategies. The term "social presence" also appears prominently, highlighting the importance of creating a sense of connection and interaction within virtual or digital environments.

Adjacent to the "red" part is the "green" part, which focuses on creativity, design, and decision-making in immersive and augmented reality contexts. The "immersive" node serves as a central hub within this part, linked to "design," "creativity," and "decision-making," suggesting a focus on the creative potential and functional applications of immersive environments in decision-making processes. The connection to "augmented reality" highlights the overlap between immersive technologies and creative design, underscoring their application in user experience, product development, and interactive storytelling.

In the "blue" part, "virtual reality" emerges as a central node, highlighting its integration with themes such as "artificial intelligence," "cultural heritage," and "immersive technologies." This part suggests using VR in diverse areas, from technological advancements like AI integration to applications in preserving and showcasing cultural heritage. The links between VR and immersive technologies reflect the ongoing development of systems that simulate realistic environments for both educational and entertainment purposes.

Overall, this visualization captures the multidisciplinary nature of research in immersive and virtual environments. It demonstrates the intersections of marketing, social engagement, creativity, and advanced technologies, revealing how these areas collectively shape consumer experiences, decision-making, and technological innovation.

Fig. 4 Bibliometric analysis: topic wheel on demand "immerse*," unit "consumption behavior" (database – Scopus, tool – VOSviewer, 2018-2024)



The unit in Figure 4 centers on "Immersion" and "Marketing," highlighting their interconnectedness with concepts such as "Customer Experience," "Consumption Behavior," and "Interactivity." This unit underscores the significant role of immersive technologies in shaping consumer engagement and decision-making. The prominence of terms like "Telepresence" and "Technological Development" reflects the growing emphasis on creating realistic, interactive experiences that enhance user satisfaction in marketing and commerce. Related nodes such as "Tourist Behavior," "Perception," and "Emotion" suggest that immersion has applications beyond marketing, including tourism and psychological research.

So, we have a list of outcomes based on bibliometric analysis:

1. Enhanced customer engagement: immersive marketing can create highly engaging experiences that captivate audiences, leading to increased brand awareness and loyalty.
2. Improved brand perception: by providing unique and memorable experiences, immersive marketing can elevate brand perception and reputation.
3. Increased sales and revenue: immersive experiences can drive sales by creating a sense of urgency and excitement, leading to impulse purchases and increased conversion rates.
4. Data-driven insights: immersive marketing can generate valuable consumer behavior and preferences data, enabling businesses to make data-driven decisions and optimize their marketing strategies.
5. Competitive advantage: early adoption of immersive marketing technologies can provide a significant competitive advantage, allowing businesses to stand out from the crowd.

6. Innovation and creativity: immersive marketing encourages innovation and creativity, leading to the development of new and innovative products and services.

7. Improved customer satisfaction: by providing personalized and tailored experiences, immersive marketing can enhance customer satisfaction and loyalty.

Conclusion

Integrating immersive marketing in promoting educational services presents significant opportunities for enhancing engagement, understanding, and retention among potential students. Educational institutions can create compelling narratives that resonate with their target audience by leveraging technologies such as VR, AR, and interactive experiences. So, it should be noted that we have several ways to implement immersive approaches in marketing educational services.

Enhanced Engagement. Immersive marketing can captivate prospective students by offering interactive experiences beyond traditional promotional methods. For example, institutions can use VR to simulate campus life or provide virtual tours of facilities, allowing potential students to experience the environment and culture of the institution firsthand. This level of engagement can significantly influence decision-making processes, as students are more likely to choose institutions they feel connected to.

Personalized Learning Experiences. Immersive marketing allows customized educational content tailored to individual preferences and learning styles. By utilizing AR applications, institutions can provide customized information about courses and programs to users' devices directly. For instance, prospective students could point their smartphone at a campus building and receive detailed information about the programs offered, creating a unique and informative experience.

Real-World Simulations. Educational services can benefit from immersive marketing by offering simulations that showcase real-world applications of their programs. For example, medical schools could use VR to allow potential students to participate in virtual surgeries or clinical scenarios, giving them a taste of their education. Such experiences enhance understanding and help students visualize their future careers, making the educational service more appealing.

Increased Brand Awareness and Differentiation. In a competitive educational landscape, immersive marketing helps institutions stand out by creating memorable experiences that differentiate them from others. Campaigns incorporating immersive elements – such as gamified learning experiences or interactive workshops – can generate buzz and attract attention on social media platforms. This increased visibility can lead to higher enrollment rates as prospective students share their positive experiences with peers.

Data-Driven Insights. Implementing immersive marketing strategies allows educational institutions to gather valuable user interactions and preferences data. Analyzing this data can help institutions refine their marketing strategies, tailor content more effectively, and improve user engagement. For instance, insights from AR applications can reveal which programs generate the most interest, guiding future promotional efforts.

While the prospects of implementation are promising, there are several challenges and future research directions:

1. *Technology Accessibility.* Not all stakeholders may have access to the necessary technology, which could limit the reach of immersive marketing campaigns.

2. *Content Development.* Creating high-quality immersive content requires significant investment in time and resources. Institutions must ensure the content is engaging and aligns with their educational goals.

3. *Training Staff.* Educators and marketers need training on effectively implementing and utilizing immersive technologies in their promotional strategies.

Implementing immersive marketing to promote educational services holds great potential for enhancing engagement, personalizing experiences, and differentiating institutions in a competitive market. By overcoming technology access and content creation challenges, educational providers can harness these innovative strategies to attract entrants and retain students effectively.

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The use of neuromanagement to optimize the internal communication of companies¹

Kristína Dúbravská²

Abstract

The paper presented focuses on neuromanagement and aims to explore how neuromanagement and modern neuroscience methods can enhance the effectiveness of work teams. The primary objective of the paper is to highlight the potential of neuromanagement in optimizing internal communication processes within companies and to provide managers with practical recommendations for improving interactions and communication in light of the changes brought about by the transition to remote working. A survey conducted in a selected company revealed that employees prefer online communication without visual elements, which limits non-verbal expression and significantly affects brain activity. This phenomenon highlights the need for a deeper investigation of team interactions using advanced neuroscience techniques such as hyperscanning. Hyperscanning is identified as a highly effective tool for studying neural synchronization between communication participants. It offers practical ways to improve team dynamics, foster empathetic connections, and increase employee engagement. The paper emphasizes the critical role of neuromanagement in addressing the challenges of digital transformation and its contribution to developing effective and innovative internal communication strategies.

Key words

Neuromanagement, internal communication, hyperscanning

JEL Classification: D87, M31

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Introduction

In today's dynamically changing work environment, *internal communication* plays a key role in supporting employee motivation and engagement. This importance takes on an even greater dimension in the context of accelerated digitalization and the transition to hybrid work models, which have become the norm after the COVID-19 pandemic. Companies are forced to constantly adapt their communication strategies to effectively face the challenges that this transition brings.

Our primary focus was to examine the specific area of communication within management. The intention was not to explore all aspects of management practice, but to point out ways to optimize and improve communication processes. A deeper examination of brain interactions leads us to the field of neuroscience, where the essential element is the human brain, which acts as a biological organ for sending and receiving information, i.e. communication. Its activity enables effective interaction between people and serves as the basis for

¹ The paper is part of the PMVP internal grant no. A-25-102/3020-09 of the University of Economics in Bratislava for young people teachers, researchers and doctoral students with the title " Use of neuromarketing and neuro-branding to strengthen brand image".

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the emergence of complex communication processes. This groundwork for complex communication phenomena is crucial for understanding how neuroscientific knowledge can find application in management practice. By combining neuroscientific knowledge and management practices, we provide valuable information on how managers can effectively use this knowledge to increase employee engagement, thereby supporting effective and empathetic communication, which is a key aspect of internal marketing.

By integrating neuromanagement into the survey results, we aim to show how neuroscientific tools can shed light on the impact of communication on the engagement of all stakeholders. Neuromanagement thus provides a framework for understanding how individuals allocate their resources to control behavior in social contexts. The psychology and neuropsychology of individual behavior are an integral part of management practice and internal marketing and can offer significant benefits as well as challenges associated with the implementation of neuroscientific methods.

1 Methodology

As we have already mentioned, the main goal of the paper is to clarify the potential of neuromanagement in optimizing internal communication processes in companies and to offer managers practical recommendations for improving interactions and communication, focusing on the changes caused by the transition to working from home.

To achieve the main goal, we have specified it into two partial goals:

1. The first partial goal is to identify the potential of neuromanagement and neuroscientific approaches in optimizing communication processes in companies, focusing on the challenges that have arisen because of the transition to working from home.
2. Based on the findings, generalize recommendations for managers on how to effectively implement neuromanagement and neuroscientific approaches into internal communication processes, focusing on improving interaction between employees in the online environment.

To achieve the main and secondary objectives of the paper, we chose a methodological approach combining several research methods - literature search, abstraction, analysis, comparison, deductive approach, primary quantitative research, and secondary research. The search of domestic and foreign expert sources, including scientific studies and articles from the Web of Science and Scopus databases, created a theoretical framework for clarifying the impact of the pandemic on the transition of employees to an online work environment and their adaptation to digital communication forms. The abstraction process made it possible to extract key insights and create a generalized concept linking internal communication with neuroscience knowledge.

The comparison method served to compare communication tools used in foreign companies with the preferences of employees from the selected company. This approach revealed common elements and differences in the implemented communication strategies. We used a deductive approach to interpret the principles of neuromanagement, emphasizing the application of advanced neuroscientific techniques, especially the hyperscanning technique, when examining interactions in an offline communication environment.

The primary quantitative survey was conducted using a standardized questionnaire at Dentsply Sirona, s.r.o., on a sample of 45 respondents. The research group consisted of 67% women and 33% men, with the dominant representation of respondents in the age

category of 20 to 29 years. The primary survey provided us with data on changes in communication preferences and tools used during adaptation to the home office. The results of the survey will also serve as a starting point for our further research activities in this area.

Based on our preliminary analyses and defined objectives, we formulated three main research questions that helped us focus on specific aspects of communication and technological tools in the context of remote work:

- **RQ1:** What technological devices do employees prefer when working from home and how do they affect their work productivity and satisfaction?
- **RQ2:** What communication channels are most used in the online environment and what is their impact on the efficiency and speed of communication between employees?
- **RQ3:** How do respondents evaluate the quality and speed of communication between colleagues in the online environment and how do these assessments correlate with their satisfaction with working from home?

The secondary research consisted of an assessment of global studies and surveys that provided an overview of the impacts of the COVID-19 pandemic on the communication practices of organizations. It focused on data discussing the implementation of digital communication tools that organizations have introduced to ensure effective communication and collaboration between employees remotely. Based on the synthesis of the obtained data, we provided a comprehensive view of the challenges associated with internal communication in the context of digital transformation. The result is specific recommendations for managers that can support more effective optimization of communication strategies within internal marketing.

2 Results and Discussion

In the following subsections, we will focus on the use of neuromanagement to streamline internal marketing communications, with an emphasis on neuroscientific approaches that support a better understanding of cognitive and emotional processes in employee communication. We will also address the transformation of communication processes during the pandemic when companies adapted and implemented digital tools for effective remote collaboration. The final section focuses on identifying the possibilities of hypescanning in the area of internal corporate communication, taking into account its benefits as well as its limits and risks. Hyperscanning is an advanced and effective tool for displaying patterns of interactions between employees, which allows for a better understanding of their cognitive and emotional reactions, which can significantly contribute to the optimization of communication processes.

2.1 Neuromanagement as a platform for enhancing internal marketing communication

Neuromanagement is a scientific approach to management that focuses on the study of managerial, economic, and behavioral processes through the analysis of brain activity, reactions, and mental processes. This subdiscipline of neuroscience focuses on understanding the functioning of the human brain and the psychological processes involved in decision-making and management processes in a management context. When analyzing economic and management issues, it integrates cognitive neuroscience knowledge with methodologies

from other scientific disciplines and uses modern technological tools to optimize management processes (Parinci, 2020). Unlike traditional management methods that try to use reason and authority to control people's behavior and results through strict discipline and rules, neuromanagement, according to Karim et al. (2019) and Gracia (2021) brings new insights that enhance employee well-being, motivation, decision-making, and performance by leveraging both rational and emotional brain processes to build trust, social bonds, and motivation, enabling managers to better optimize employee behavior and improve performance.

In the context of employees, who are the key element of any organization, we are talking about internal marketing, which falls under the broader framework of human resources marketing. The essence of human resources marketing is analogous to the principles of traditional marketing, but its goal is to strengthen relationships with employees, both current and potential. This approach includes not only recruiting new talent but also retaining them, motivating them, and creating a positive relationship between employees and the organization. In the literature, we can encounter various terms such as internal marketing, personnel-oriented internal marketing, HR marketing, or personnel marketing (Matusovičová et al., 2022), all of which emphasize the application of marketing principles in human resource management. Personnel marketing is divided into internal and external, with both approaches being interconnected and influencing each other.

External marketing focuses on communicating and interacting with the public and target markets to create a positive image of the organization and attract new clients. This process is inextricably linked to effective communication and cooperation between the company and its employees, who are the key carriers of its value and image to the outside world. (University of Southern California, 2023). This interrelationship between external and internal marketing emphasizes the importance of internal marketing, which focuses on strengthening relationships with current and potential employees, who are perceived as internal customers. According to Kotler (1997), a recognized expert and the "*father of modern marketing*", internal marketing is a process that focuses on training and motivating employees to ensure quality services are provided to external customers. This approach is essential for improving the overall performance of the organization and the quality of external services. Suryati and Irhamma (2022) add that internal marketing is a dynamic process that involves mental approaches and continuous improvement. It becomes an integral part of the daily activities of organizations and their strategic planning. In addition, internal marketing supports employee satisfaction and engagement, which directly affects their motivation and loyalty. (Matusovicova et al., 2022). One of the most important tools of internal marketing is communication, which is essential for the effective exchange of information between employees and managers.

As Lušňáková et al. (2019) state, communication has a fundamental impact on motivation, as it not only enables the transfer of necessary information but also supports the achievement of organizational goals and stimulates employees to innovate. This aspect shows the close connection between properly set communication strategies and the organization's ability to deepen employees' identification with corporate culture and values. This strengthens not only the motivation and loyalty of employees but also their engagement, which in turn contributes to the long-term success of the organization.

In the traditional understanding of management, the communication process is often understood as a rigid structure aimed at meeting organizational needs, while taking less account of individual psychological or neurological factors that may influence employee perception and behavior. This approach emphasizes the effective transfer of information and

the fulfillment of goals without a deeper examination of how communication affects the motivation and cognitive processes of individuals.

Neuromanagement brings an innovative perspective to corporate communication, as it goes beyond the traditional exchange of information. It focuses on understanding how different forms and styles of communication affect the emotional and cognitive responses of employees. This process involves the activation of neural networks oscillating in synchronized rhythms, thereby creating so-called "windows" for effective interaction. Moreover, examining digital communication channels from a neuromanagement perspective allows not only to monitor their use but also to analyze how employees perceive them at a neurobiological level (Balconi, Ventura, 2017), (Ventura et al., 2017). According to Castillo-López and Domínguez (2021), these emotional and cognitive processes significantly affect work performance and satisfaction, while neuromanagement knowledge clarifies how effective communication strategies can support optimal decision-making processes and positively influence employee performance.

2.2 Transformation of communication in internal marketing during the pandemic

Before the pandemic, organizations relied on traditional forms of communication, such as face-to-face meetings and physical presence in offices, which allowed for direct interactions between employees. However, with the advent of the pandemic and the shift to the home office, communication processes have undergone a fundamental transformation, with the online environment becoming the main platform for work communication. Video calls, chats, and emails have become the main tools that have allowed for the maintenance of work dynamics in unpredictable conditions (Simonian, 2022). However, working in an online environment has brought new challenges, especially in the area of information processing and emotional understanding.

Technological platforms such as Zoom, Microsoft Teams, and Slack have enabled effective communication, but the digital environment has significantly limited the transmission of non-verbal signals, such as gestures, facial expressions, and tone of voice. These limitations have increased the cognitive load on the brain, which can lead to reduced concentration and efficiency. The results of a Microsoft study showed that working from home increases stress and anxiety, with a decrease in attention and energy after just 30 minutes of video calling, which affects overall productivity. This phenomenon is caused by the fact that online communication does not allow the transmission of natural nonverbal signals that simplify information processing during in-person interaction (Shape the Market, 2021). In addition, working from home complicates teamwork because team members are not physically present in the office, which limits the possibilities for cooperation and relationship building. Virtual relationships between individuals cannot fully replace personal contact, which is crucial for effective collaboration. Belludi (2008) states that up to 93% of the communication flow is made up of nonverbal communication, such as posture, movements, facial expressions, and voice intonation, with only 7% attributed to words themselves. This fact emphasizes the importance of nonverbal signals for high-quality teamwork.

Another important factor is the limited ability to recognize emotions through facial expressions during online interactions. Iacoboni (2017) explains that the right hemisphere of the brain is dominant in the processing of emotional signals, especially non-verbal ones, while the left hemisphere focuses on verbal, analytical, and logical information processing.

This lateralization effect, which combines the different functions of both hemispheres, indicates that the right hemisphere integrates emotional and non-verbal processes, while the left hemisphere is responsible for linguistic and analytical tasks. In an online environment where non-verbal signals are limited, the activity of mirror neurons, which are crucial for empathy and social interactions, may be weakened. These neurons, discovered by the Italian neurologist Marco Iacoboni, are activated not only when performing actions, but also when observing them in other people, thus allowing the understanding of emotions, intentions, and behavior (Iacoboni, 2008).

In the context of digital communication, the absence of direct physical contact and the limitation of nonverbal signals negatively affect the activation of mirror neurons, which can weaken the ability of employees and managers to understand the emotional states of others. Preston (2021) warns that limitations in video conferencing tools such as Zoom or Microsoft Teams can reduce the effectiveness of communication, as physical signals are limited to the frame of the screen. In addition, the quality of the transmission affects the perception of emotional expressions, leading to lower activation of mirror neurons and disruption of social interaction.

This phenomenon has a significant impact on the ability of leaders and managers to create and maintain a "*social climate*" in teams. The lack of nonverbal signals complicates the perception of employees' emotions, which can reduce the ability of managers to express empathy and support team collaboration. A manager with high emotional intelligence may face challenges in forming authentic, empathetic responses, which affects the quality of interactions. To alleviate these limitations, it is necessary to adapt communication strategies that integrate both verbal and nonverbal elements, thereby ensuring effective interaction and understanding in a digital environment.

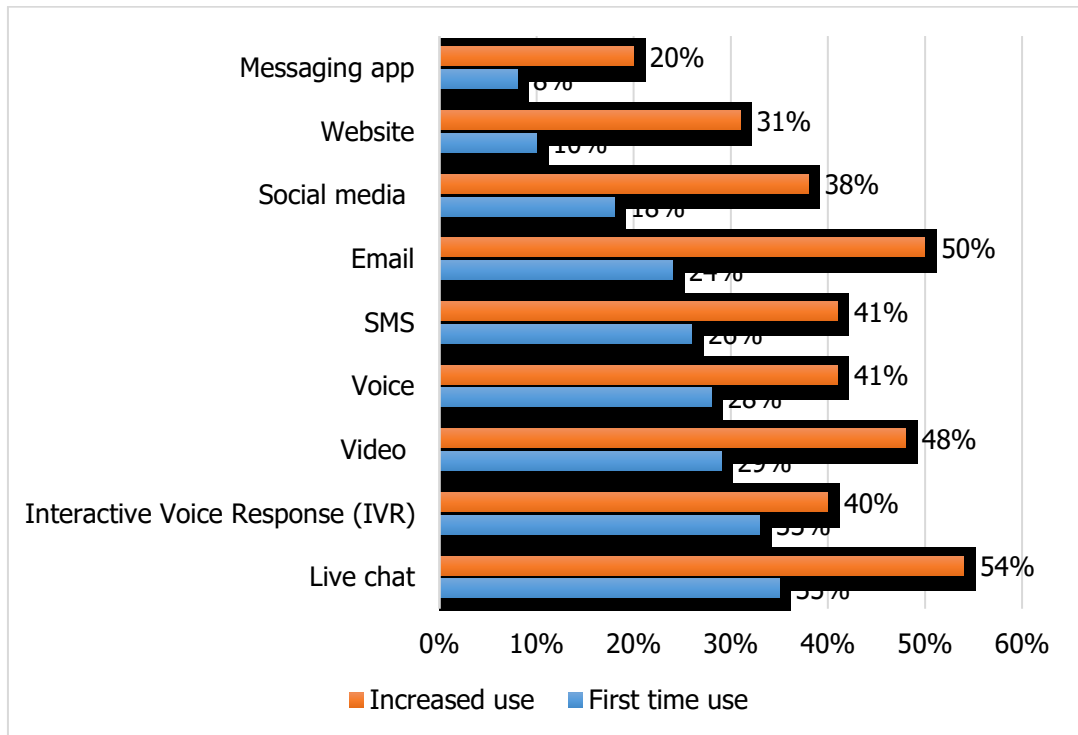
2.3 Adaptation of global companies to online communication channels

As mentioned above, the COVID-19 pandemic has forced global organizations to adapt to new conditions, leading to a significant increase in the use of digital communication channels. The following chart illustrates which digital communication tools companies have started using for the first time and how their use has increased in response to the situation.

The responses show that interactive voice response (IVR) and live chat have been implemented as new channels in more than a third of companies, meaning that, on average organizations have introduced 3,5 new channels. Tools such as live chat, email, and video conferencing have become key tools for ensuring effective communication between employees working from home.

Despite these positive changes, the GuideSpark survey suggests that employees have some concerns about accessing information. More than 60% of employees find this access problematic, with 65% stating that the information is not complete enough. Moreover, up to 72% of employees are not satisfied with the level of adaptation of internal company communications to their needs (Galton Brands, 2021). These findings indicate that communication management is proving to be one of the most challenging aspects of home office conditions. To achieve effective communication when working from home, it is necessary to ensure continuous, frequent, accurate, and multi-channel communication flows that are also measurable.

Graph 1 Impact of COVID-19 on the adaptation and expansion of communication channels in 2020



Source : own processing according to Sherif, A. (2020)

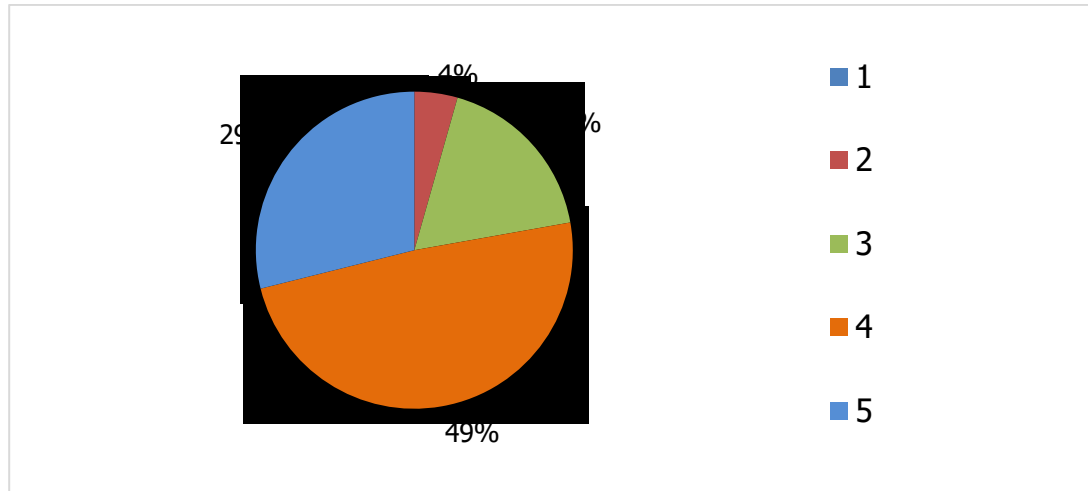
Given these challenges, it is necessary to examine in more detail how changes in digital communication channels have affected not only the effectiveness but also the perception of communication itself. A thorough analysis of these aspects will contribute to a better understanding of the dynamics of communication in a hybrid environment and will allow organizations to adopt more informed strategies to support employees in their interactions.

2.4 Employee preferences in the area of digital communication in the selected company

In the following subsection, we will focus on employees' communication preferences during the transition to working from home due to the pandemic. The survey will focus on specific devices, such as laptops, tablets, and computers, as well as the platforms that employees use to communicate, including emails, video calls, and the like. The goal is to provide an overview of the evolution of communication methods from in-person interactions to online forms. Finally, we will compare these findings with neuromanagement principles, highlighting how understanding neural mechanisms can improve communication strategies and support a more effective remote work environment.

An important and necessary part of a home office is a quality connection and overall communication with the company's internal environment. Based on the following question; we tried to find out how members of individual teams evaluate the success and speed of digital communication compared to traditional forms of communication.

Graph 2 Rating the quality and speed of communication between team members in an offline environment (1 - worst possible rating / 5 - best possible rating)



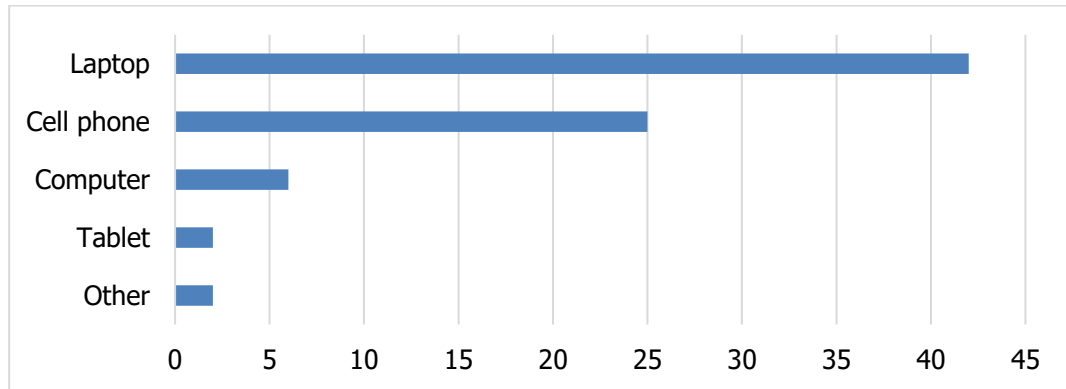
Source : own processing

In Graph 2, we can see that almost half of the respondents express satisfaction with online communication between colleagues. A grade of 1, indicating a high level of satisfaction, was assigned to 29% of employees, while 18% of employees took a neutral position, and only 4% of employees expressed dissatisfaction. Such a level of satisfaction, although encouraging, can serve as a basis for future initiatives aimed at optimizing communication processes.

To effectively perform their profession, employees need adequate technological equipment that allows them to perform work tasks, whether in a traditional office environment or remote work. Technological devices such as laptops, mobile phones, and desktop computers play a key role in this context, their importance depending on the nature of the work and the place where it is performed. Modern digital tools allow employees flexible access to the necessary information in real time and increase their productivity through continuous access to communication channels and company systems. Based on a quantitative survey, we identified the ranking of the most used devices by employees of the selected company.

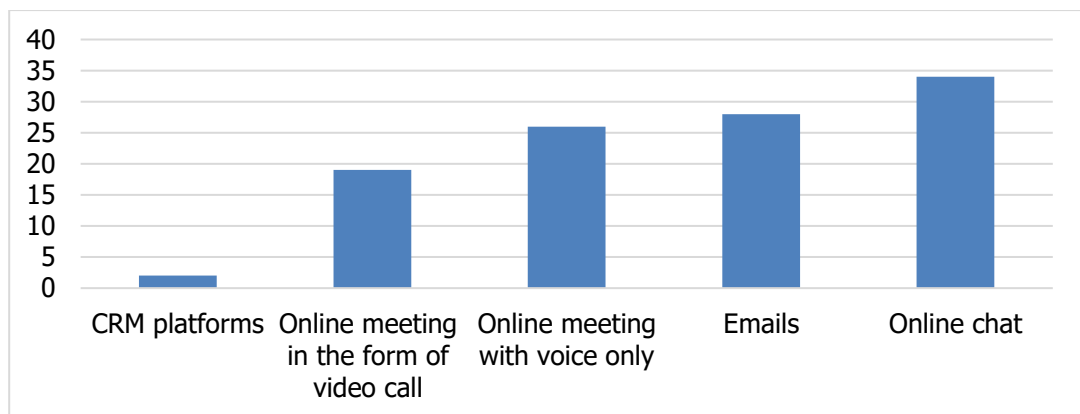
Based on the results in Graph 3, it is evident that employees prefer laptops, which are considered a universal tool suitable for various work tasks, especially in the context of working from home, where it allows employees full access to company resources. The second most used device is the mobile phone, which is mainly used for fast and flexible communication. The desktop computer is in third place, which, despite the gradual increase in mobility in work processes, is still used, especially if the work requires higher performance or a stable working environment. These devices are often preferred in offices, where employees perform technically demanding tasks requiring high computing power. The findings from this survey point to the importance of choosing the right technological means according to the needs of employees, which can significantly improve the efficiency and satisfaction of employees and thus directly affect their productivity.

Graph 3 The most used devices in home office conditions for everyday work



Source : own processing

Graph 4 Preferred form of communication in an offline work environment



Source : Own processing, 2024

Companies use various communication channels, such as emails, chats, video calls, and other tools, to effectively exchange information, making it easier to receive and share. About this topic, we learned from employees which form of communication is most widespread in their company.

According to the results of Graph 4, the most used communication channel in the online environment is online chat, which employees prefer for a fast and flexible exchange of information. In second place is e-mail, which is used for more formal communication and providing more detailed information. The next channel, online voice-only meetings, allows employees to interact without visual contact, which can be advantageous for quick coordination. Video calls are another preferred form of communication, which provides more personal contact and better conditions for collaboration. Finally, CRM platforms, although less used, play a key role in customer relationship management and information sharing within the team. These results indicate that employees prefer tools that support interaction and fast exchange of information, which is important for the effective functioning of a team in an online environment.

Based on the synthesis of the findings, we can formulate the following conclusions in the context of the established research questions:

- **RQ1:** *What technological devices do employees prefer when working from home, and how do they affect their work productivity and satisfaction?*

Based on the survey results, it is evident that employees prefer laptops, which provide flexibility and easy access to company systems. In second place is a mobile phone, which is ideal for quick communication, and in third place is a desktop computer, which is used for more demanding technical tasks. This choice of technologies suggests that the appropriate choice of devices has a key impact on work efficiency and employee satisfaction when working from home. The right technological equipment can significantly affect employee productivity and satisfaction, and therefore companies should ensure the availability of these devices following the needs of their employees.

- **RQ2:** *What communication channels are most used in the online environment and what is their impact on the efficiency and speed of communication between employees?*

Online chat is the most preferred communication channel, as it allows for a fast and flexible exchange of information. Emails are preferred for more formal and detailed communication. Video calls and online meetings with voice communication provide more personal contact but are less used compared to chat platforms. CRM systems, which are used to share customer information, are less used. This choice suggests that employees prefer tools that support quick interaction without the need for visual contact, which can contribute to increasing the efficiency and speed of communication.

- **RQ3:** *How do respondents rate the quality and speed of communication between colleagues in an online environment, and how do these ratings correlate with their satisfaction with working from home?*

The results indicate that respondents report high satisfaction with online communication between colleagues, reflecting the efficiency and speed of communication in a digital environment. This positive attitude correlates with higher employee satisfaction with working from home, indicating that quality communication has a direct impact on increasing employee satisfaction and productivity. While the results are encouraging, there is room for further improvement, which could serve as a basis for future initiatives aimed at optimizing communication processes and improving performance in an online environment.

2.5 Possibilities of using modern neuroscientific approaches in the field of internal communication in the corporate environment

The results of the global survey compared with data from the company under study indicate a preference for digital communication tools, such as emails and live chats, which are among the most used channels for work communication. However, from a neuromanagement perspective, these forms of interaction present several challenges. The absence of non-verbal signals, such as gestures, facial expressions, and body language, increases the cognitive load of the brain, which can affect the ability of employees to correctly interpret the emotions and intentions of individual team members. Moreover, this limited ability to

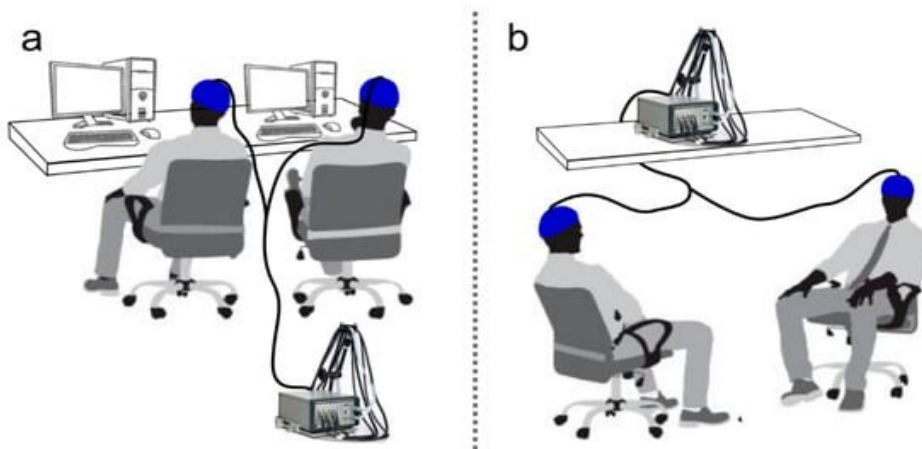
transmit emotional and non-verbal cues weakens empathy and emotional connection between employees and managers, which can negatively affect the effectiveness of team communication.

Neuromanagement offers an innovative approach to examining management processes that differ from traditional methods by using a technique known as **hyperscanning**. Unlike traditional neuroimaging methods that analyze individual brain activity, hyperscanning focuses on brain synchronization when individuals communicate or collaborate on shared tasks (Balconi & Vanutelli, 2016). This approach uses modern imaging technologies such as functional magnetic resonance imaging (fMRI), electroencephalography (EEG), magnetoencephalography (MEG), and functional near-infrared spectroscopy (fNIRS), opening up new possibilities for the analysis of interpersonal communication (Balconi & Venturella, 2021; Mayseless et al., 2019).

One of the key assumptions of the hyperscanning method is a phenomenon called inter-brain synchrony, which is based on the assumption that during social interaction between two people, their brain oscillations are synchronized. EEG (electroencephalography), as a technology capable of recording these oscillations, is an ideal tool for researching this phenomenon. EEG allows for non-invasive monitoring of brain activity, capturing the electrical activity of neurons, which manifests itself as oscillations in the brain. The high temporal resolution of EEG allows for the analysis of instantaneous changes in brain activity during social interactions, thus providing valuable information about how brain activity is synchronized between the participants in the interaction. This process helps to connect instantaneous changes in brain activity with specific moments of social interaction, thus providing detailed insight into interpersonal dynamics (mBrainTrain, 2023).

The figure schematically illustrates two setups for recording hyperscanning using functional near-infrared spectroscopy (fNIRS). Part (a) shows an experimental environment in which hyperscanning is used during controlled tasks, such as cooperative or competitive computer games. This configuration allows for monitoring the synchronization of brain activity between participants while performing specific tasks. In contrast, part (b) illustrates a setup for naturalistic interactions, such as real-time verbal and nonverbal communication exchanges. This approach allows for the investigation of brain activity during natural social interactions, thus providing a deeper understanding of the dynamics of interpersonal communication in everyday life (Crivelli, D., Balconi, M., 2017).

Fig. 1 Hyperscan recording setup



Source : Crivelli, D., Balconi, M., 2017

Previous studies have shown that the mutual adaptation of two interacting brains leads to their synchronization, with cooperative tasks being one of the best examples of this technique. Mechanisms of this type cannot be captured by traditional recordings limited to the individual subject (Vanutelli, Crivelli & Balconi, 2015). Molenberghs et al. (2016) found that when working together to achieve a common goal, there is increased synchronization in brain regions such as the anterior cingulate cortex and temporoparietal junction. This synchronization promotes empathy, coordination, and understanding between participants, leading to greater effectiveness in team collaboration (Stanley & Adolphs, 2013).

Hyperscanning is particularly beneficial for managers, as it allows them to analyze how their communication and management styles affect team dynamics at a neurological level (Balconi & Pagani, 2014). Through this technique, managers can gain detailed insight into employees' responses to their instructions, analyze interactions between team members, and monitor whether their brains are optimally synchronized during cooperative tasks. Research by Mayseless et al. (2019) suggests that higher levels of brain alignment reduce misunderstandings and promote empathetic interaction, which is key to effective team leadership.

When conducting research using hyperscanning, it is important to note that it is expensive, but this depends on several factors. The costs depend on the technology used (e.g. EEG, fMRI, or fNIRS), the length of the experiment, the number of participants, and whether the research team has these devices at its disposal or has to rent them. For example, the cost of fMRI hyperscanning can reach tens of thousands of euros per experiment, while EEG hyperscanning is more affordable (Abtahi, M et al., 2020). The processing of the collected data and their expert analysis can also significantly affect the overall budget. Therefore, researchers should carefully consider the available options and resources in advance. However, given the potential of hyperscanning in improving team dynamics and work performance, this investment may be repaid in the future, especially if these technologies become more accessible and can bring long-term benefits to management practice.

Conclusion

The paper aimed to explore the potential of neuromanagement and neuroscience approaches to optimize internal communication, with an emphasis on identifying the challenges that have arisen as a result of the transition to working from home. The findings suggest that while employees appreciate the effectiveness of digital tools such as emails and live chats, these forms of communication present challenges associated with limited nonverbal communication, which is crucial in understanding emotions and intentions. Based on these findings, it appears that neuromanagement has great potential in this context. Neuromanagement techniques such as hyperscanning can provide managers with deeper insight into the behavioral and neural processes that influence the work environment and relationships remotely. Thus, the integration of neuroscience approaches could lead to the creation of effective and empirically based communication strategies that enhance employee engagement and satisfaction in online environments.

In conclusion, neuromanagement in the field of digital communication is not just a response to current trends but offers long-term benefits for the success of organizations, which can thus better prepare for future changes in work processes. This approach significantly supports the development of research and practice in the field of internal marketing. Neuroscience, focused on resource management and behavioral control in social contexts, creates opportunities for empirically based approaches that overcome the limits of traditional

management models. Neuromanagement therefore increases organizational performance, strengthens communication processes, and improves employee engagement, leading to more effective teams and sustainable organizational growth.

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The Impact of Environmental Footprint Labeling on Consumer Decision-Making in Food Purchasing¹

Slavomír Frešo²

Abstract

Environmental footprint labeling informs consumers about the ecological impacts of food products, guiding them toward more sustainable choices. This study systematically reviews secondary literature to analyze its impact on consumer decision-making in food purchasing. It summarizes current knowledge, examines key factors influencing label effectiveness - such as clarity, credibility, and accessibility - and proposes improvements for policymakers, the food industry, and marketers. Results show that transparent, well-communicated labels enhance trust and encourage environmentally responsible behavior, while demographic factors modulate their impact. Standardized frameworks and strategic communication strengthen labeling effectiveness. In conclusion, clear and credible environmental footprint labels help consumers make informed choices, support sustainability efforts, and contribute to the development of more resilient food systems.

Key words

environmental footprint labeling, consumer decision-making, sustainable food systems, labeling standards

JEL Classification: M31, D12, Q56

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Introduction

In recent years, consumer demand for food products that not only meet quality and nutritional standards but also account for their environmental impact has been steadily increasing. Heightened environmental awareness among the public, coupled with continuous advancements in product standards and labeling, prompts the question of how effectively environmental labeling - based on assessing a product's environmental footprint can guide consumers' purchasing decisions. Within the food supply chain, efforts to provide clear, trustworthy, and easily interpretable information have emerged as a means not only to reduce information asymmetries but also to support more sustainable purchasing choices. However, the absence of a fully unified regulatory framework at both European and global levels has led to a variety of partial and voluntary initiatives differing in format, scope, and data credibility.

Through a systematic review of available secondary literature, this study aims to elucidate how environmental labeling of food products affects consumer preferences, trust, and willingness to pay a premium for environmentally considerate alternatives. Building on an analysis of international standards (e.g., ISO 14020) and selected initiatives (such as the

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Eco-Score), it evaluates the role of clarity, complexity, visualization, and credibility of information in shaping purchasing behavior. At the same time, it examines whether and how demographic factors such as age, education, income, and cultural context influence the perception and effectiveness of environmental labeling. The resulting synthesis offers practical recommendations for policymakers, industry stakeholders, marketers, and sustainability-focused organizations, aiming to better leverage environmental labeling as a strategic tool in fostering more sustainable food systems.

1 Methodology

This study is grounded in secondary research, employing a systematic literature review to analyze and synthesize current insights into the influence of environmental footprint labeling on consumer purchasing decisions for food products. Secondary research is a commonly used methodology, as it enables researchers to identify trends and theoretical frameworks based on existing data (Snyder, 2019). It is an efficient approach that allows scholars to leverage pre-collected data to address new research questions, particularly in fields where gathering fresh primary data can be both time-consuming and costly. A critical aspect of secondary data analysis involves thoroughly evaluating the quality and appropriateness of existing data for the specific research objective (Johnston, 2014). Environmental marketing encompasses a wide range of topics, from the ecological attributes of products to their effects on consumer behavior. Given this complexity and interdisciplinary scope, secondary research serves as an ideal tool for examining established knowledge and identifying emerging trends in the domain (Dangelico, Vocalelli, 2017).

This work is based on secondary research, which included analyzing existing literature, consumer behavior surveys, and publicly available data. The primary goal was to identify and synthesize scientific knowledge regarding how environmental footprint labeling influences consumers' decisions when purchasing food. In line with this objective, the aim of the article is to present a comprehensive overview of contemporary findings, to clarify the key factors that affect the efficacy of environmental footprint labeling, and - based on the synthesized insights - to propose recommendations that support policymakers, the food industry, and marketers in refining labeling strategies. Such enhancements could foster greater consumer trust and ultimately encourage more sustainable purchasing behaviors. This same overarching goal is reflected in the abstract, ensuring coherence between the study's introduction and its summarized preview.

- Secondary research leverages data originally collected for other purposes, readily available and suitable for addressing the defined research problem (Kotler, Keller, 2013). The literature search spanned approximately two weeks, focusing on contributions published within the last decade to ensure contemporary relevance. During this process, the main aim of this article is to analyze the impact of environmental footprint labeling on consumer decision-making in food purchasing. To achieve this, the research explores the following sub-aims, which also address the core analytical questions of the study:
- To provide an overview of current knowledge on environmental footprint labeling in the food sector.
- To identify key factors influencing the effectiveness of environmental footprint labeling.
- To propose recommendations for improving labeling strategies from the perspectives of policymakers, the food industry, and marketing professionals.

Conducting secondary research requires a systematic approach that involves:

- Identifying the necessary information,
- Locating relevant secondary sources,
- Collecting the required data, and
- Identifying information gaps.

Such gaps play a pivotal role in evaluating the relevance and utility of the acquired data (Richterová et al., 2009).

This study employed secondary research through a systematic literature review, utilizing electronic resources provided by the University of Economics in Bratislava. The approach focused on scientific peer-reviewed articles, institutional reports (e.g., ISO, EU), and reputable data sources. Key search terms included "food labeling," "packaging labels," "consumer decision," "environmental footprint labeling," and "sustainable food systems." Literature was primarily identified via databases such as Web of Science, Scopus, and Google Scholar, emphasizing studies published within the last decade and reviewed during the two-week collection period.

Selection criteria prioritized relevance and quality. Only works addressing environmental labeling of food, consumer perceptions and decision-making related to sustainability, or existing regulatory frameworks were included. Sources were thematically categorized according to regulatory context, consumer trust, demographic influences, and purchasing behavior. This thematic analysis facilitated the synthesis of findings, the identification of knowledge gaps, and the recommendation of areas for future research. Through this structured approach, the study aims to advance understanding of environmental footprint labeling's role in shaping consumer behavior and to inform strategies that promote more environmentally responsible consumption patterns.

2 Results and Discussion

The following sections integrate findings from various studies and initiatives to illustrate how environmental footprint labeling influences consumer decision-making in the food sector. The analysis begins by examining international and European frameworks that guide the creation and implementation of environmental labels, as well as private sector initiatives that address current regulatory gaps. Building on this foundational understanding, the subsequent subsections explore the impact of labeling strategies on consumer perceptions, trust, and value assessment, and consider how demographic factors - such as income, education, and cultural context - shape responses to environmental footprint labels. This integrated approach ensures a comprehensive overview of both the structural conditions and the consumer-level responses that ultimately inform the effectiveness of sustainability-related labeling.

2.1 International Frameworks for Environmental Footprint Labeling

Selected Environmental Labeling Systems

ISO 14020:2022 „Environmental statements and programmes for products — Principles and general requirements“ serves as a central framework for environmental labeling and declarations, establishing general principles of accuracy, truthfulness, scientific substantia-

tion, and verifiability. Its goal is to create a unified, credible basis for communicating environmental information about products and services, thereby contributing to a transparent global market and curbing greenwashing practices.

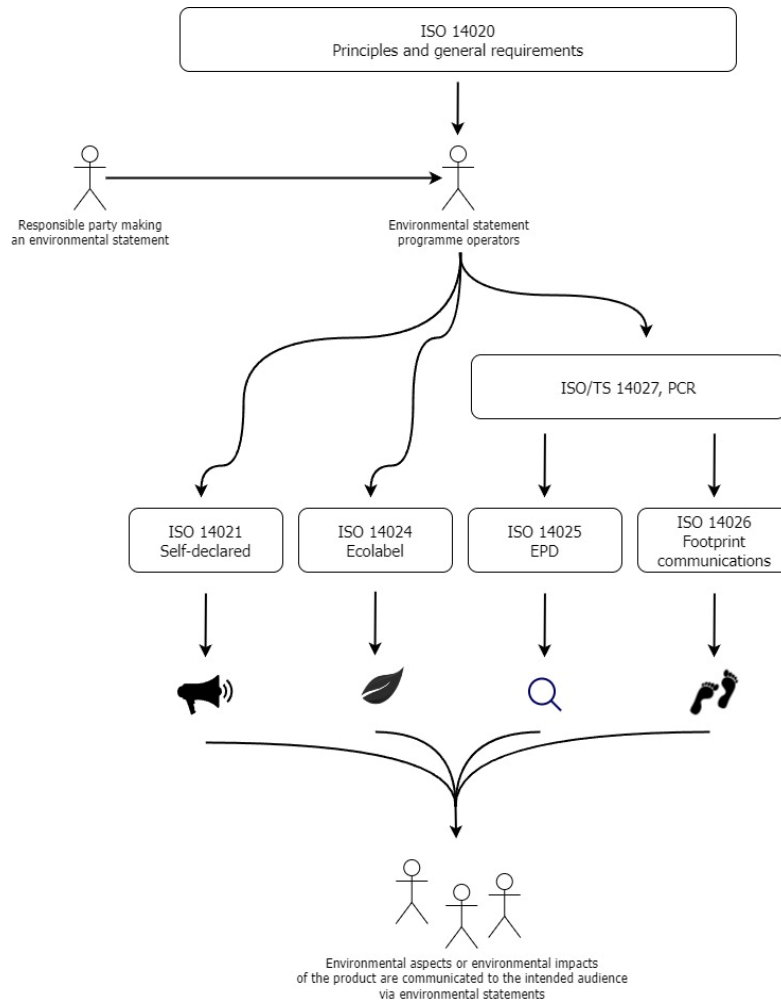
Building on these principles, see Fig. 1, more specific standards come into play: ISO 14021:2016 „Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling)” focuses on Type II environmental claims, i.e., self-declared manufacturer claims supported by verifiable facts. ISO 14024:2018 „Environmental labels and declarations — Type I environmental labelling — Principles and procedures” governs Type I ecolabels - independently certified, multi-criteria systems - while ISO 14025:2006 „Environmental labels and declarations — Type III environmental declarations — Principles and procedures” addresses Type III environmental product declarations based on life cycle assessment. Furthermore, ISO 14026:2017 „Environmental labels and declarations — Principles, requirements and guidelines for communication of footprint information” provides guidelines for communicating environmental footprints, while ISO/TS 14027:2017 „Environmental labels and declarations — Development of product category rules” establishes Product Category Rules (PCRs). As stated in ISO 14200 (2022), these PCRs ensure a consistent basis for comparing products within Type III declarations and strengthen their credibility.

Together, these standards form a coherent system in which various types of labels and declarations address the diverse information needs of the market and consumers. Their mutual complementarity enhances the credibility of the information provided, stimulates demand for sustainable solutions, and encourages companies to continuously improve the environmental performance of their products and services (ISO 14200, 2022).

At the European level, there is currently no legal framework governing the labeling of foods in terms of their environmental impact. The “Farm to Fork” strategy, which aims to improve health and dietary conditions within the Union, is undergoing gradual evolution. In its upcoming iteration, it plans to address the framework for food sustainability labeling (European Commission, 2020).

According to Bock et al. (2022), environmental footprint labeling of foods represents a critical tool for promoting sustainability within the EU food system. This initiative enables transparent sharing of information among stakeholders in the food supply chain, including consumers and public institutions. Such transparency is essential for rationalizing the diversity of data and mitigating information asymmetries. Harmonized definitions, methods, and tools can further enhance the system’s overall efficiency and credibility. A key element of environmental footprint labeling is the life-cycle-based assessment of a product’s environmental impacts. This approach underscores the need for systematic evaluation from raw material production through processing, distribution, and disposal. Such assessments form the basis for developing sustainability indicators and thresholds that allow for monitoring progress at the food system level. These findings can be summarized in periodic reports, such as annual assessments of the state of the food system.

Figure 1: Structure of ISO 14020 standards family



Source: Compiled based on (ISO 14020, 2022)

As Bock et al. (2022) note, in addition to improving transparency, environmental footprint labeling serves as a tool for increasing consumer awareness. Providing clear and understandable information on the environmental impacts of products can foster positive changes in purchasing behavior and stimulate demand for products with a lower environmental footprint. At the same time, it places pressure on producers and retailers to improve production processes and offer more sustainable alternatives. This labeling system also forms an integral part of the broader legislative framework for sustainable food systems in the EU. It supports policy cohesion and the integration of sustainability principles into all policies related to food. Implementing binding rules and standards associated with environmental footprint labeling could accelerate the transformation of the food system toward greater sustainability and strengthen the resilience of the entire sector.

The absence of national and European-level labeling systems is partially compensated by private initiatives. One example is the “Eco-score” initiative, see Fig. 2, which operates on a voluntary basis in certain European countries.

Figure 2: Logo of the „Eco-score“ label



Source: Eco-score (2021)

Büttner et al. (2024) describe the Eco-Score as a rating system that indicates the environmental friendliness of food products to consumers. However, research suggests that its impact extends beyond sustainability alone. As indicated by previous studies, the mere presence of an environmental score may trigger a halo effect - a cognitive bias in which positive perceptions in one attribute domain (e.g., ecological sustainability) carry over into other evaluation areas, such as expected taste or perceived health benefits. Through this mechanism, the Eco-Score can indirectly shape consumers' overall purchase intentions, not only by conveying information about environmental impact but also by influencing perceptions of quality, taste, and healthfulness.

Moreover, according to Büttner et al. (2024), differing consumer attitudes and values - such as concern for health or the environment - can either amplify or diminish these effects. By examining the influence of the Eco-Score across various food categories (e.g., pasta, yogurt, savory snacks), this study contributes to a deeper understanding of how such scoring systems affect product perceptions and, consequently, purchasing behavior. These insights are valuable for policymakers, food industry stakeholders, and marketing professionals striving to encourage more sustainable consumer decisions.

2.2 Consumer Perception and Effectiveness of Environmental Footprint Labeling

2.2.1 Impact of Environmental Footprint Labeling on Purchasing Decisions

According to Camilleri et al. (2019), consumers often underestimate the environmental impacts associated with food production and transportation, with their estimates being particularly distorted for high greenhouse gas emission items such as beef. While low-emission foods like fruits and vegetables are assessed more accurately, consumers generally fail to recognize the magnitude of emission differences across various food types. This lack of awareness may influence their purchasing behavior and lead to less environmentally friendly choices. However, the study's results suggest that simple and understandable labeling can effectively enhance consumer awareness and foster more environmentally responsible decisions. When consumers were provided with information about food emissions presented in a familiar unit (e.g., “minutes of a light bulb”) or through a color-coded system indicating emission levels, their decision-making shifted significantly. Labels not only improved the accuracy of their emission estimates but also motivated them to favor lower-emission foods, such as vegetables, over high-emission alternatives like beef.

As Camilleri et al. (2019) note, these findings underscore the potential of environmental labeling as an effective tool for promoting sustainability. Visualization and clear information can serve as decision-making guides, helping consumers better understand the consequences of their choices and contributing to positive changes in purchasing behavior.

According to Calderon-Monge et al. (2024), Front-of-Pack Labeling (FoPL) systems have been introduced to assist consumers in making more informed food choices by presenting key nutritional information in a concise and accessible manner. These labels complement mandatory nutritional facts, offering interpretative summaries of product attributes that can guide consumers toward healthier selections. As with carbon footprint labels, which convey climate-related data, FoPL formats such as Nutri-Score demonstrate the broader potential of labeling initiatives to influence consumer behavior. By presenting essential product characteristics - ranging from nutrient density to production methods - in a standardized, easily interpretable format, labeling can serve as a valuable tool for shaping purchasing decisions and encouraging more sustainable consumption patterns.

Moreover, Calderon-Monge et al. (2024) suggests that the effectiveness of labeling systems depends not only on the information provided but also on how it is communicated and perceived by consumers. Drawing from models typically applied to technology acceptance, such as the Technology Acceptance Model (TAM), recent studies have explored the adoption and impact of nutritional labels in non-technological contexts. The underlying principles may be similarly applied to environmental footprint labeling, enabling better consumer comprehension and engagement with sustainability metrics. In turn, policy makers, food industry stakeholders, and marketers can leverage these insights to refine labeling strategies, foster consumer trust, and ultimately motivate shifts toward more environmentally responsible purchasing decisions.

2.2.2 Trustworthiness and Perceived Value in Environmental Footprint Labeling

The findings by Ankiel et al. (2020) emphasize the critical role of food packaging as a carrier of information that directly influences consumer purchasing decisions. Their study identifies key mandatory information, such as product composition, shelf life, and storage conditions, as being of utmost importance to consumers. These elements not only minimize health risks but also serve as essential decision-making cues. Optional information, while less universally relevant, can complement these core details if carefully selected and presented. In the context of environmental footprint labeling on food products, this research underscores that such labels, to be effective, must integrate seamlessly with other key information and be designed for clarity and legibility. Consumers, especially under time pressure or in the face of information overload, are likely to focus on a limited set of critical details. Therefore, environmental footprint labels should prioritize straightforward, visually accessible formats that enhance the informational value of packaging without contributing to clutter.

From a managerial perspective, according to Ankiel et al. (2020) the economic implications of effective labeling strategies are significant. Clear and concise packaging that aligns with consumer priorities, as highlighted in the study, not only improves decision-making but also supports brand differentiation and consumer trust. However, excessive or poorly prioritized information may dilute these benefits and lead to consumer confusion. Businesses are thus encouraged to streamline optional information and focus on mandatory elements that

resonate most with consumer needs. By incorporating legible, reliable, and strategically positioned ecological indicators, companies can enhance the perceived value of their products and strengthen their competitive position in the market.

2.2.3 The Influence of Demographic Factors on the Perception of Environmental Footprint Labels?

Differences in Label Perception by Age, Education, Income, and Other Demographic Variables

Consumer responses to carbon footprint labeling on food products are significantly influenced by demographic factors. According to Rondoni and Grasso (2021), gender emerges as an important determinant, with women being more sensitive to environmental labels and more willing to pay higher prices for products with lower carbon footprints than men. Age also plays a key role, as older consumers more frequently display positive attitudes toward products with environmental labels. Higher levels of education are generally associated with increased environmental awareness. However, this factor does not always correlate with a greater willingness to accept such labeling. Consumers with higher incomes are typically willing to pay a premium for eco-friendly products, though this trend can vary by region. Regional origin also influences purchasing behavior, as consumers in certain countries demonstrate greater sensitivity to environmental aspects than others.

Consumer attitudes toward carbon labeling are closely linked to their value systems and motivations. Rondoni and Grasso (2021) note that a positive attitude toward eco-friendly products increases the likelihood that consumers will pay attention to carbon labels. These attitudes are further bolstered by a willingness to seek information and understand these labels. Consumers who actively search for information gain a deeper understanding of labeling significance and are more likely to incorporate it into their decision-making. However, the authors caution that a lack of clear information or understanding of carbon footprint labeling can erode consumer trust in these labels. In addition to attitudes and access to information, factors such as knowledge, context, and habits can influence purchasing decisions. The authors emphasize that while consumers with a deeper understanding of carbon footprints may better understand the environmental attributes of products, their decisions are often influenced by factors such as the availability of eco-friendly products or price. Habitual behaviors, such as regularly purchasing the same products, can also limit the influence of labeling, as consumers rarely re-evaluate established decision-making processes. These findings suggest that the effectiveness of environmental labeling hinges on a combination of individual and contextual factors, which must be thoughtfully considered when developing marketing strategies.

Study by Ševčíková et al. (2023) examining consumer perceptions of eco-friendly products and packaging in Slovakia offers insights into how demographic factors shape the reception of environmental labeling in the food sector. Although the study found that age does not significantly influence the frequency of eco-friendly product purchases - nearly 87% of respondents reported buying such items at least occasionally across all age groups - income levels emerged as a more influential demographic variable. Higher-income consumers demonstrated a statistically significant, moderately positive correlation with increased eco-friendly product purchasing, suggesting that financial capacity can enhance willingness to pay premiums for sustainable options. Despite the importance of product quality, composition, and price, the study also noted consumer preferences for recyclable and reusable packaging as part of a broader environmental commitment. However, the cost of eco-friendly

products and unfamiliarity with zero-waste shopping experiences remain barriers to widespread adoption. Taken together, these findings highlight the interplay of income, familiarity, and product-related attributes in shaping consumer responses to environmental footprint labeling, underscoring the need for targeted communication and educational strategies that address both individual and contextual factors.

Conclusion

This study has demonstrated that environmental footprint labeling significantly influences consumer decision-making in food purchasing. Through a systematic review of secondary literature, the findings indicate that clear, transparent, and credible labeling enhances consumer trust and encourages more sustainable purchasing behaviors.

In addressing the first sub-question, the results confirm that environmental footprint labels impact purchasing decisions by increasing awareness of food-related environmental impacts. Studies show that well-communicated labels, particularly those using visual aids like color-coded systems, can effectively shift consumer preferences toward more sustainable choices.

Regarding the second sub-question, demographic factors such as income, education, and cultural background play a crucial role in shaping consumer responses to environmental footprint labeling. Higher-income and more environmentally conscious consumers tend to react more positively to such labels, while factors like familiarity and purchasing habits can moderate their effectiveness.

The third sub-question explored strategies to enhance the trustworthiness, perceived value, and overall effectiveness of environmental footprint labels. Findings suggest that standardization, clear communication, and integration into broader sustainability initiatives are key to improving labeling effectiveness. Labels should be easy to interpret, scientifically robust, and positioned to minimize consumer skepticism.

While environmental footprint labeling has significant potential to guide more responsible consumer behavior, existing labeling systems remain fragmented, and regulatory inconsistencies limit their impact. Future research should focus on evaluating long-term consumer behavioral changes, refining label design for maximum accessibility and credibility, and exploring how different regulatory approaches influence market adoption. By addressing these gaps, policymakers, industry stakeholders, and marketers can strengthen labeling as a tool for promoting sustainable consumption and fostering resilient food systems.

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The use of artificial intelligence in marketing communication of companies¹

Barbara Lenická²

Abstract

The use of Artificial Intelligence (AI) in marketing communication is becoming an increasingly important phenomenon that is changing traditional approaches to business-to-customer interactions. This article examines modern approaches to the use of AI in marketing communication, including content personalization, process optimization, and interaction automation. The focus is on the ability and effectiveness of AI to process large volumes of data in real time and thereby improve the effectiveness of campaigns. The aim of this article is to explore how artificial intelligence is transforming companies' marketing communication and what technologies and tools are being used in this area. The ambition of the text is not only to map the current state of the art, but also to identify the opportunities and threats that artificial intelligence brings. The theoretical part of the article is based on the analysis of domestic and foreign sources, while the practical part focuses on case studies of successful AI implementations in marketing communication. Research results suggest that companies that use AI effectively achieve higher customer engagement rates and better financial results. The article provides an overview of key AI technologies and trends.

Key words

artificial intelligence, marketing communication, optimization

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Introduction

In the era of digitalization and technological advancements, artificial intelligence has become one of the most significant factors influencing the way businesses interact with their customers. Companies are forced to find innovative ways to capture and retain the attention of customers who expect a highly personalised and immediate approach. Marketing communication, which have traditionally relied on creative approaches and intuitive decisions, are increasingly using data-driven methods and sophisticated technologies to increase efficiency and personalization. Artificial Intelligence (AI) is a revolutionary tool that enables marketing to overcome traditional limits.

Artificial intelligence brings a wide range of opportunities for the development of digital marketing, especially in the areas of process automation and research. It helps to gain detailed analysis and market insights, identify trends and predict customer behaviour. This ability to predict behavioural patterns is increasingly becoming a key tool in creating effective

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marketing strategies that support the achievement of business goals and success. AI is already playing a significant role in digital marketing activities and is an important factor in gaining competitive advantage. (Duric, 2023)

The term Artificial Intelligence (AI) is abbreviated as AI. AI is a form of machine learning that involves the use of a variety of data, calculations and algorithms to generate desired outputs. (Ferjancová, 2023)

Artificial intelligence is a multidisciplinary field encompassing theoretical principles, methods, techniques, and applications that simulate, augment, and complement the capabilities of human intelligence. (Zhang,2024)

Huang and Rust (2020) argue that there are four different forms of artificial intelligence, namely:

- Mechanical (i.e., automation),
- analytical (i.e. gradient modelling),
- Intuitive (i.e., content creation),
- and empathic (i.e. social robotics).

The European Union has adopted a law that characterizes the term artificial intelligence as: *„A system that is designed to operate with elements of autonomy and that, based on data and inputs provided by a machine or human, infers how to achieve a given set of goals using machine learning or logic- and knowledge-based approaches and produces system-generated outputs such as content (generative AI systems), predictions, recommendations or decisions that influence the environments with which the AI system interacts.“* (Gulley, 2024)

Artificial intelligence (AI) learning is the process by which systems acquire the ability to perform tasks without explicit programming. This process involves several fundamental elements and methods that are key to the proper functioning of AI. Here are the main elements of AI learning:

1. **Machine learning** - this is the process by which AI gradually improves its performance based on the experience it has gained or new skills it has acquired. This process allows AI to efficiently analyze and validate the knowledge it has gained, while operating based on data processing without the need for human intervention (Gupta et al., 2020). The goal of machine learning is to design algorithms that process data, data, make predictions, and assist in decision-making processes. (Jordan, 2019) Machine learning also allows AI systems to continuously improve and adapt based on the data at their disposal. Its main advantages are flexibility and low implementation costs. On the other hand, the disadvantage is the need to process large amounts of data, which can be both time and computationally intensive. (Gupta et al., 2020)
2. **Deep learning** - is a subcategory of machine learning that involves optimizing neural networks to solve long and complex problems. Specifically, it occurs to transform abstract things into a more machine-readable format. (Brownlee, 2019) Deep learning is a specialized field of machine learning that is based on the use of neural networks. These networks allow systems to learn from large amounts of

data, with their structure and functionality inspired by the human brain. Neural networks are interconnected and arranged in multiple layers that work together to process information. Thanks to deep learning, artificial intelligence has made significant advances in areas such as image and speech recognition. This technology is considered a breakthrough within AI because it allows complex problems to be solved at a higher level than traditional methods. (Gupta et al., 2020)

- 3. Natural Language Processing** - is a branch of computer science that allows computers to extract or generate meaning from text that is understood by humans and is grammatically correct (Loucks et al., 2018). NLP allows computers to understand, interpret and generate human language. NLP systems can parse text, answer questions, translate between languages, and interact with users in real time. Their main goal is to enable humans to interact with computers in their natural language and provide answers in the same language. (Gupta et al., 2020)

Author Overgoor et al. (2019) characterizes artificial intelligence in marketing as "*the development of artificial agents who, given the information they have about consumers, competitors and the focal company, design and/or execute marketing actions to achieve the best marketing outcome.*" AI marketing is the use of artificial intelligence to automatise, personalise and optimise marketing activities. This technology allows you to analyse large volumes of data, identify trends and predict customer behaviour. Based on the insights gained, AI can create personalized offers, target ads, and automate marketing campaigns.

The AI marketing process consists of the following steps:

- 1. Data collection** – artificial intelligence collects information about customers' buying behaviour, demographics, interests and interactions with the brand.
- 2. Data analysis** - identifies patterns, predicts customer behaviour and recognises potential customers.
- 3. Process automation** - it enables efficient management of marketing campaigns, saving time and costs (e.g. automatic sending of emails).
- 4. Personalization** - based on the analysed data, AI creates individual recommendations, offers and discounts that are tailored to customer preferences. For example, it can offer relevant discounts or recommendations to customers who have expressed interest in a particular product. (Klemová, 2024)

Artificial intelligence in marketing is used by marketers to optimize spend, personalize the customer journey. Practical examples of marketing solutions using AI include chatbots, image detection, personal assistants (Google Assistant, Amazon Alexa, Apple's Siri), targeted advertising or dynamically changing prices on e-commerce sites. (Šimová, 2023)

1 Methodology

The article provides an overview of the current state of research in the use of artificial intelligence (AI) in corporate marketing communication. Based on a systematic review of relevant domestic and international literature, it focuses on identifying key applications of AI in marketing.

A detailed analysis of domestic and foreign literature on artificial intelligence, marketing communication and their interconnection helped to identify key aspects of the use of artificial intelligence in marketing communication. The deductive method (Protection, 2009) was used

to define the basic terms and concepts of artificial intelligence and its application in marketing. The inductive approach (Bednarikova, 2013) was applied in identifying trends and specific examples of the use of artificial intelligence in companies. On the basis of literature analysis and comparison, a synthesis of knowledge was performed, which allowed to create a comprehensive picture of the issue and to identify key aspects of the use of artificial intelligence in marketing communication. The comparison of different definitions and approaches to artificial intelligence, helped to identify commonalities and differences in the understanding of the concept. The advantages and disadvantages of AI in relation to marketing practice were also compared.

The practical part was based on a review of successful marketing campaigns in which artificial intelligence was used. The selected practical examples came from different fields (e.g. commerce, food industry) and their strategy, tools and results were examined. To better understand the application possibilities of AI in marketing, a qualitative study of the selected campaigns was conducted. This research focused on identifying specific AI tools (e.g., chatbots, content personalization, data analytics) and their benefits for businesses.

With the help of methodological approach, the solved problem has been treated not only from theoretical point of view, but also on the basis of practical applications, whereby the author tries to contribute to a deeper understanding of the possibilities and limitations of the use of artificial intelligence in marketing communication of companies.

To meet the objective, research questions were set:

RQ1: *What are the main benefits and risks associated with the use of AI in companies marketing communication?*

RQ2: *What forms of artificial intelligence are most commonly used in companies marketing communication ?*

The aim of this article is to explore how artificial intelligence is transforming companies' marketing communication and what technologies and tools are being used in this area.

2 Results and Discussion

2.1 Artificial intelligence in marketing

Artificial intelligence can improve communication between the company and the customer. One of the key benefits is the ability to respond to many customer requests at the same time, making customer care faster and more efficient through chatbots. (Gentsh, 2018)

Forms of use of artificial intelligence

Today, a wide range of forms of artificial intelligence are available and accessible to the public. Many of these are available free of charge, with premium features or advanced capabilities requiring an additional fee. Their uses are diverse - from facilitating information retrieval during study, to experimentation and digital content creation, to streamlining business processes. Increasingly, technology manufacturers are integrating AI into their devices, extending their functionality.

Practical examples include the ability to automatically remove unwanted objects from photos with background reconstruction. All of these features simplify life for users and provide greater added value. (Dremel et al., 2020)

1. Text generation

Text generation is one of the most widespread and popular user-accessible forms of artificial intelligence. Users can confront so-called "chatbots" with any request or input. Users can insert various commands into a chatbot, such as a command to simply translate or edit text, search for information, or add smileys to text. There are certain rules and ethics that these tools must adhere to. (Perez-Vega et al., 2021)

ChatGPT

The tool works via chat, where the user can ask questions of varying difficulty. ChatGPT as a tool can remember the entire discussion and so the user can refer to previous questions as well. The abbreviation GPT comes from the English word "Generative Pre-trained Transformer". Transformed architecture is a type of neural network that is designed to process various sequential data (text, speech, images, etc.). Introduced in 2017 by Google employees, it is referred to as a turning point in the field of artificial intelligence for sequential data processing. It allows performing many computations in parallel and needs less time to train through the data. The ChatGPT tool is a predictive model that can understand the meaning and context of input text based on statistics. Through training on a large dataset, it can produce texts that are similar to natural human language. When generating the text, one has to consider that the answers are generated based on probabilities, patterns and information from the training data, i.e., the result is not always relevant and has to go through additional human factor checking. (Markova, 2023)

2. Image generation

To generate an image, you just need to provide the AI with basic parameters and requirements. The artificial intelligence will then take care of creating the fictional image. It relies on pre-analysed images and can create new ones accordingly. (Perez - Vega et al., 2021)

Tools for creating visual outputs through artificial intelligence:

- **Midjourney** – is a powerful image generator through artificial intelligence. It produces images with great texture, colors, and accuracy. Midjourney tool creates hyper-realistic visuals, images and objects are natural and look like real. This tool works through messaging and commands in Discord.
- **AdobeFirefly** – is a tool for creating and editing multimedia content. It helps to create interesting graphics, edit photos and create animations. This artificial intelligence model is trained on Adobe stock images. It is possible to integrate other elements that are created by artificial intelligence into the generated images.
- **DALL – E 3** – the tool is a product of the OpenAI research lab behind the ChatGPT tool. This tool generates all types of images using simple text inputs and automatically optimizes the prompts given by the user. (Loktionova, 2024)

3. Customer Relationship Management (CRM)

It is a business strategy that adapts to a customer-centric approach by filtering valid information and maximizing the collection of user information. Artificial Intelligence, combined with CRM, helps companies understand information about consumer behaviour, can identify which products or services are in demand and also the amount for which customers would be willing to purchase a product or service. CRM tools that are based on AI can help companies access marketing data approximately 95% faster. (Cezim, 2024)

4. AI chatbot application

Through advanced chatbots, it is possible to provide highly personalised support to customers and help them solve a wide range of problems without the need for direct human intervention. This technology allows companies to optimize the use of human resources, save time and reduce costs, while at the same time increasing the quality of customer service and the availability of the customer support provided. (Balazova, 2024)

Chatbots contribute to improving the customer experience of your customers. One of the biggest benefits is that a chatbot can deal with multiple customers at the same time. The customer can interact with the chatbot 7 days a week, 24 hours a day. This makes the customer service continuous, the company can communicate with its customers without interruption and regardless of language barriers or time zone. (Cezim, 2024)

5. AI in advertising

Artificial intelligence can analyse information about users, specifically their age, gender, areas of interest and location. Based on the information and data collected, ads are served to the people or audience for whom they are relevant. (Cezim, 2024)

6. AI in content marketing

Artificial intelligence makes it much easier to target the right audience in digital marketing. With data analytics, marketers can more accurately reach users, attract more leads and drive digital transformation. One of the main AI tools in content marketing is natural language processing (NLP) technology, which enables the generation of personalized content for different target audiences. This form of personalization not only helps improve the effectiveness of marketing campaigns, but also increase sales.

Content marketing empowered by artificial intelligence gives businesses the tools to create more relevant content that resonates better with web or social site visitors. Automated content generation also speeds up the process, allowing marketers to create more quality digital content in less time. (Cezim, 2024)

2.2 Benefits of using artificial intelligence in marketing communication

Artificial intelligence brings significant benefits to marketing communication that increase its effectiveness and strategic value. In particular, it enables precise personalisation

of content, leading to better targeting of the right audiences and higher levels of customer engagement. With the ability to analyse large volumes of data in real-time, AI can quickly identify trends and predict consumer behaviour, supporting the creation of dynamic, highly relevant campaigns. In addition, it streamlines processes such as market segmentation, content creation and customer interaction management, saving time and resources. The result is improved customer experience, increased conversions and enhanced long-term customer loyalty.

Fast processing of consumer data

Machine learning algorithms enable fast and accurate analysis of large volumes of customer and prospect data. Artificial intelligence can generate insightful graphs and charts that make it easy for marketing campaigns to identify trends and behavioural patterns. As a result, marketers can create data-driven strategies and plan their activities more effectively. These activities include the following tasks: customer segmentation, personalization, improved ad targeting. (Carpena, 2023)

Real-time personalisation

Personalisation starts with understanding the customer's preferences and tailoring the offer to their needs. Artificial intelligence plays a key role in collecting data such as demographics, location and purchase history, enabling the creation of personalised marketing campaigns in real time. Through predictive analytics, AI can anticipate customer behavior and provide relevant recommendations. This technology is also used by leading platforms such as Netflix for content suggestions, Google for search recommendations, and Instagram for social media content personalization. (Mesan, 2023)

By analysing individual consumer behaviour data, AI can design content that precisely matches individual interests and requirements. Whether it's personalised email campaigns, customised websites or tailored content. AI ensures that every customer interaction is relevant, beneficial and valuable. This strengthens the relationship between the brand and the target audience. (Şenyapar, 2024)

Predictive analysis

The integration of artificial intelligence with predictive analytics has brought about a revolution in marketing communication, allowing companies to predict customer behaviour and adapt their strategies for maximum impact. This combination uses historical data, statistical algorithms and machine learning techniques to predict future trends, consumer reactions and market changes. This enables businesses to identify opportunities for customer engagement and respond to market changes before they occur. This approach leads to more proactive and strategic marketing solutions, shifting the emphasis from reactive to predictive planning. In the area of segmentation and targeting, it enables the use of historical data on customer behavior to more accurately predict their reactions to specific campaigns or products. This leads to more personalized communication, better campaign effectiveness and an overall improved customer experience. Another important aspect is optimizing the customer journey. By predicting their next steps at different stages of the buying process, AI helps prevent loss of interest and respond effectively to potential issues. The result is a smoother customer journey from initial interest to customer loyalty. This synergy of AI and

predictive analytics greatly supports strategic decision-making and thus increases the competitiveness of companies . As technology advances, its importance in marketing communication will become even greater and more effective. (Şenyapar, 2024)

2.3 Threats of using AI in marketing communication

Despite the many benefits of using AI in marketing communication, its drawbacks cannot be ignored. Understanding these risks is key to responsible and sustainable AI deployment in marketing communication.

The disappearance of jobs

Elon Musk, the tech leader, said at the inaugural AI Safety Summit *"For the first time, there will be something that is smarter than the smartest human. It's hard to say what exactly that moment will look like, but one day there will be a situation where there will be no need for jobs"*. In addition to the above quote, he talked about the fact that artificial intelligence may be far more dangerous than nuclear weapons. Elon Musk attempted to call for the suspension of the development of an advanced version of AI - the GPT - 4 software from OpenAI with an open letter. (Walk, 2024)

Phishing

Phishing campaigns can achieve greater effectiveness and credibility thanks to artificial intelligence, allowing attackers to increase the likelihood that victims will take the desired action. Using AI, attackers can create highly personalised and persuasive phishing messages that are free of grammatical errors and stylistic flaws. (SK-CERT, 2023)

Deepfake

Deepfakes represents media content created using artificial intelligence technologies that are primarily designed for deployment. This phenomenon is becoming an increasingly important tool for spreading misinformation and creating fake digital content. Deepfakes use machine learning algorithms combined with facial mapping software to integrate data into multimedia content without consent. If the processing is precise enough, the result can be a very convincing but completely fake text, video or audio recording in which a person appears to be saying or doing something they never actually did. (Marr, 2024)

Data security and privacy

The use of AI in marketing brings significant challenges in the areas of data security and privacy. Businesses need to place emphasis on protecting customer data and ensuring compliance with data protection legislation. One of the main challenges marketers face today is ensuring the secure processing of personal data when using AI. Information such as purchase history, online behaviour or social media activity is often collected and analysed to create customer profiles for targeted advertising. If this data were to fall into the wrong hands or be misused, serious breaches of consumer privacy could occur. It is therefore

essential that marketers ensure that their AI systems comply with data protection legal standards and are resilient to cyber-attacks such as hacking or identity theft. Transparency in data collection and giving customers the ability to control how their information is used are key steps to building trust. Prioritising these measures is essential for the responsible use of AI in marketing activities. (Ashbridge, 2024)

Fake AI products

One of the risks associated with the popularity of AI is the possibility of its misuse by fraudsters. They may pretend to promote a well-known AI product from a reputable company and may create fake advertisements or websites. These fraudulent platforms often lure users into downloading supposedly legitimate AI software, but in reality they slip them malware that can compromise their data. Scams of this kind are often spread through social networks such as Facebook, where people unwittingly increase the reach of such campaigns by sharing or engaging in discussions. It is advisable to be cautious when interacting with AI products - always check the page's social media history, read user reviews and pay attention to the legitimacy of the source. (SK-CERT, 2023)

2.4 Examples of the use of artificial intelligence in marketing communication of companies in practice

Heinz – A.I. Ketchup

Kraft Heinz partnered with creative agency Rethink Canada to create the marketing communication of the brand. The collaboration produced the first ever advertising campaign where the visuals were completely generated and created using artificial intelligence (Fig. 1). (Schröder, 2022)

Heinz Ketchup is a "cultural" icon and the brand's status was in jeopardy. It was in danger of losing its status of relevance to a younger audience. The challenge was to revive the 153-year-old brand. The agency Rethink took advantage of the current trend of generating images through artificial intelligence. Specifically, the DALL-E 2 tool was used to create the images using artificial intelligence. The command to the AI was the question "What does ketchup look like?", without further detailed specification, the AI produced images that resembled Heinz brand ketchup. After prompts, the DALL-E tool generated various visuals such as a Renaissance ketchup bottle or a ketchup tarot card. The Rethink agency also involved the wider public in the creation through a social media challenge. People were invited to create new designs for ketchup visuals. The selected designs were used and turned into a campaign with visuals that were completely created with the help of artificial intelligence. This experiment motivated Kraft Heinz to produce a special series of Heinz bottles using visuals from AI. Subsequently, the experiment was turned into an art gallery in a virtual world where all the ketchup visuals were available (Fig 2). (Gianatasio, 2022) (Praveena, 2022)

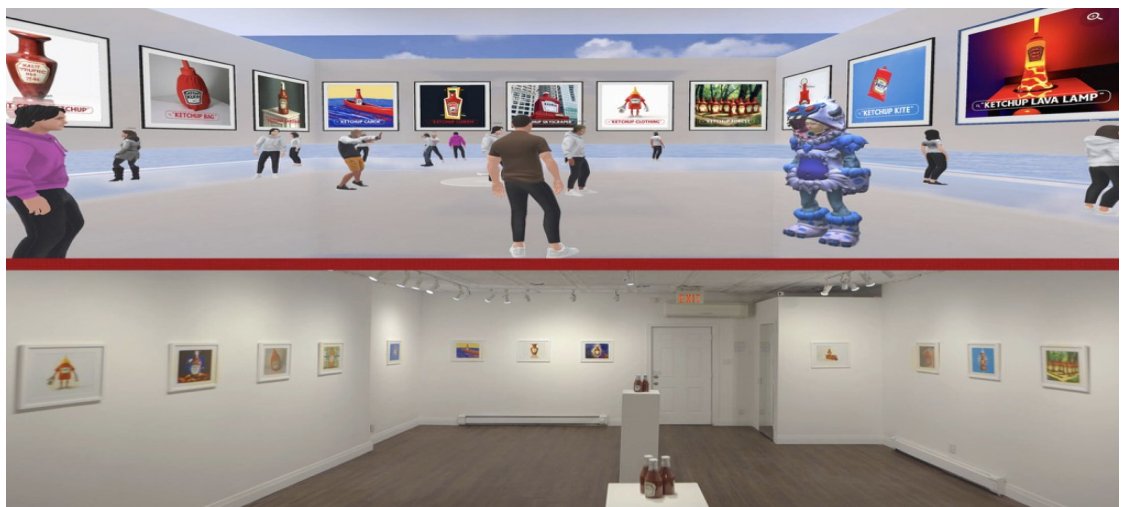
The A.I. Ketchup campaign was launched in Canada and the U.S., but quickly went viral and global. The result generated 850 million views worldwide. Social media showed a 38% higher engagement rate than seen in previous campaigns.

Fig. 1 Heinz A.I. Ketchup



Source: <https://campaignsoftheworld.com/digital/heinz-a-i-ketchup/>

Fig. 2 Virtual gallery of Heinz ketchups



Source: <https://www.adsoftheworld.com/campaigns/a-i-ketchup>

This innovative approach to using AI in Heinz's "A.I. Ketchup" campaign strengthened the brand by highlighting its synonymity with the ketchup category. Engaging A.I. to generate visuals that users immediately associated with Heinz demonstrated not only the creative power of the campaign, but also the strength of its brand identity. The public was directly involved in the campaign through interacting with the generated images, which depicted Heinz ketchup even without explicitly specifying the brand name. This moment of 'recognition' sparked a wave of fascination and content sharing on social media. The campaign achieved a staggering media reach, with minimal investment in production. The public response included positive reviews from both tech-focused target audiences and a wider audience, confirming Heinz's universal appeal as a brand relevant to younger generations such as Gen Z. This strategic combination of creativity, technology and consumer engagement has shown that Heinz can not only reach but also inspire a global audience, while retaining its brand's authenticity and legacy.

Rajo – Laktofree campaign

The brand rajo Laktofree came to the Slovak market in 2010. Products rajo Laktofree were developed mainly for consumers who have specific nutritional needs, suffering from lactose intolerance. Marketing communication since the beginning of the brand's presence on the market has been oriented towards a specific target group. The target group was addressed through online channels and in the waiting rooms of gastroenterologists. In addition to the target group, products from this range have also appealed to consumers looking for more easily digestible dairy products. Based on this finding, in 2024, Rajo decided to reach out to mainstream consumers with Rajo Laktofree products through the use of artificial intelligence in the creation of a TV campaign.

The marketing communication of the rajo Laktofree brand is linked to space from 2021. The universe communicates a weightless state to consumers, because after consuming lactose-free products the consumer has no digestive problems (Fig. 3). This key benefit "taste experience without indigestion" is communicated from 2024 onwards. One of the benefits in the creation of the TV spot was the absence of featured people. The task of the AI was to represent what happens in the mouth after drinking rajo Laktofree. The entire process of creating the TV spot that was generated by the AI took 4 months, even though the output spot is only 19 seconds long. The artificial intelligence generated 120,000 MB of data and 12,000 trials generated during the creation process. Of the total generated, only 4% of the material was used for further processing. 4 different artificial intelligence programs were used in the creation. The Laktofree campaign was launched on 3 June 2024, and was on TV channels until 15 July 2024. (Red, 2024)

Fig. 3 Campaign rajo Laktofree



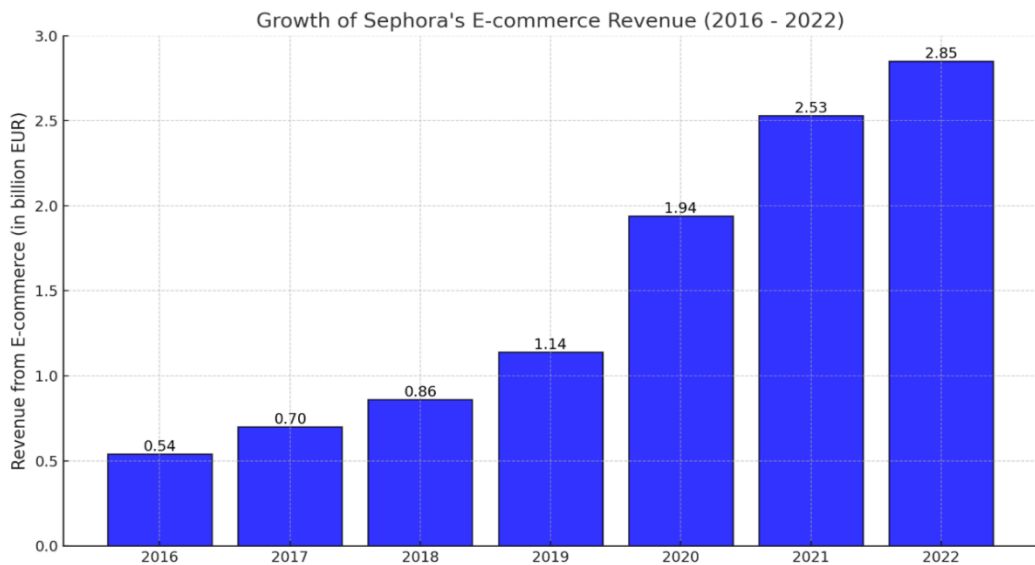
Source: <https://strategie.hnonline.sk/news/marketing/96154489-chut-beztiaze-v-novej-rajo-laktofree-kampani-vytvorila-umela-inteligencia>

Sephora – virtual assistant a chatbot

Sephora has adapted to the era of artificial intelligence and digital technology through its AI-driven product recommendation feature to virtual product trials. It has been using AI since 2016, when it launched the first AI-powered chatbot.

With the help of the use of AI and digital innovations, the company has been able to reach out to a large customer base, thereby increasing brand loyalty. Thanks to the chatbot, they have increased their net e-commerce revenue from USD 580 million (i.e. approximately EUR 550 million) in 2016 to more than USD 3 billion (i.e. approximately EUR 2 billion) in 2022, which represents a 4-fold increase in online revenue in 6 years.

Graph 1 Sephora e-commerce sales



Source: own processing according to <https://medium.com/cut-the-saas/beauty-and-the-bot-how-sephora-reimagined-customer-experience-with-ai-bafb5a9ae1d8>

More examples of the use of AI at Sephora:

- **Search engine optimization** - Sephora has also used artificial intelligence in search engine optimization to improve customer outreach using inbound generated pages. Pages were tailored to specific search queries, such as "best foundation for sensitive skin ", and relevant, personalized content was displayed to potential customers based on the queries. This search engine optimization was very successful, resulting in a 6% increase in organic search visibility for keywords specifically between Q4 2018 and Q2 2019.
- **Skin Tone Analysis** – thanks to ModiFace's technology, the AI-powered chatbot was able to perform an analysis of the user's skin tone and based on the results, suggest appropriate products for the skin. It took into account customer preferences, purchase history and previous interactions when selecting products.
- **Sephora Virtual artist** – the app uses augmented reality technology to allow customers to test thousands of Sephora products through a mobile app. This offers an interactive and personalized experience. In the first two years since its launch in 2016, users have tried more than 200 million shades and more than 8.5 million people have used the feature.
- **Sephora Color Match** – this technology assisted customers in choosing the right shade and offered product recommendations from across the brand's portfolio. It allowed users to test different shades in real time, while also providing the ability to purchase the product of their choice directly through the Sephora website or mobile app.
- **Sephora Reservation Assistant** – this tool was integrated into the Facebook Messenger platform in 2016 and served customers to easily schedule makeup appointments at Sephora stores. In less than two years, it brought an 11% increase in bookings and simplified the appointment process, which contributed significantly to higher customer satisfaction and increased in-store spending. (Parsani, 2024)

Conclusion

The use of artificial intelligence in marketing communication is revolutionising the way companies interact with their customers and manage their campaigns. The paper provides answers to the research questions we set out. It clearly enables the answering of RQ1 by which we explored the benefits of artificial intelligence. The use of AI in marketing communication provides a wide range of benefits: from accurate customer segmentation and content personalization, to streamlining processes and predicting consumer behavior. Research results also show that the main motivation for companies to use AI in marketing communication is its ability to improve efficiency, accuracy and customer interactions. These technologies improve campaign effectiveness, increase conversion rates and build long-term customer loyalty. As a result of RQ2, companies are using forms of artificial intelligence in marketing communication such as chatbots, search engine optimization, product recommendations, and most importantly, to create visuals or content. In addition, artificial intelligence enables companies to identify new business opportunities and better respond to changing market needs. In general, we can conclude that AI in marketing communication works as a tool that not only improves the performance of businesses, but also improves the quality of the customer experience. Despite these benefits, research also points to challenges such as ethical issues, the need for skilled personnel and proper data management. Overall, it is clear that artificial intelligence has the potential to be one of the critical success factors in marketing communication in the future. As technology and analytics continue to evolve rapidly, companies that can effectively integrate AI into their strategies will gain a significant competitive advantage. The research findings highlight the necessity to further explore this area and continuously refine the practical applications of AI to maximize its benefits and minimize its potential risks.

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Social Value in Tourism: Literature Review¹

Lenka Pekarovičová²

Abstract

Social value in tourism represents a growing area of research with significant implications for the development of the sector. The objective of this study is to conduct a systematic literature review focusing on social value in tourism, based on publications from the Web of Science database. Bibliometric analysis was employed to examine 350 relevant publications, identifying trends in the volume of studies, geographical distribution, and leading contributors. While research on social value in tourism was scarce in the late 20th century, a gradual increase has been observed since 2003, with significant peaks in 2016 and 2022. Even though China leads in terms of publication volume, the most active author and institution, Sejong University, are based in South Korea. The findings confirm that social value significantly influences tourist satisfaction, behavior, and perceptions.

Key words

Social value, tourism, bibliometric analysis, literature review

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Introduction

Tourism is now increasingly seen as a key factor in economic growth and development. It influences a wide range of business activities, contributing to job creation and increasing wage incomes, thus supporting the economy at many levels. Therefore, it is essential to quantify its benefits in order to effectively manage policies and respond to potential market failures that may arise as a result of tourism growth (Kubičková et al., 2017). However, in addition to economic benefits, tourism plays a significant role in social value creation (Altınay et al., 2016). It serves as a catalyst for the preservation and promotion of cultural heritage and, through the communication of local customs, traditions and arts to visitors, contributes to a greater understanding and appreciation of cultural diversity, while at the same time promoting the restoration and preservation of unique traditions (Matiku et al., 2020).

Social value is the result of the interaction of three fundamental pillars – economic, societal and environmental (Akkermans, 2023). The key resources required for social value creation in tourism include natural, financial, political, institutional and human resources. Their effective use can ensure balanced benefits at the level of all three components, thus creating sustainable value for the economy, communities and nature (Altınay et al., 2016).

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In order to have a comprehensive understanding of the impact of tourism on social value, it is crucial to conduct a systematic literature review. This process allows a comprehensive overview of current research trends and identifies the most relevant publications in the field.

1 Methodology

The aim of this paper is to conduct a systematic literature review focusing on social value in the context of tourism in the Web of Science database (hereinafter referred to as "WoS"), with an emphasis on identifying key authors, institutions, geographical regions, and critical insights that contribute to the studied field. The WoS database is one of the most reputable databases, providing access to scholarly articles, reviews, conference proceedings and other publications. The database is maintained by Clarivate and is known for its high quality.

The article employs bibliometric analysis, which is a quantitative method used to examine scientific publications through statistical and analytical techniques. It allows the identification of the most cited works, authors, research institutions, or geographical areas that dominate the field under study (Donthu et al., 2021).

The terms "tourism" and "social value" were chosen as keywords to cover the thematic focus on social value in the context of tourism. The selected terms were used in the advanced search, enclosed in quotation marks to ensure that they were searched as a phrase and to avoid separate word searches. At the same time, the terms were combined using the logical AND operator, which ensured that the searched publications contained both terms at the same time. Based on the above, 350 results were found for the study period 1985 – 2024.

The built-in tool "Analyze Results" available directly in the WoS database was used to analyze the results. This tool allowed quantitative processing of the search results and provided data on:

- the evolution of the number of publications since 1985,
- the most actively publishing authors,
- the most actively publishing institutions,
- the countries that dominate publishing in the field under study.

The "Citation Report" tool in the WoS database made it possible to examine reactions to publications over the period under review.

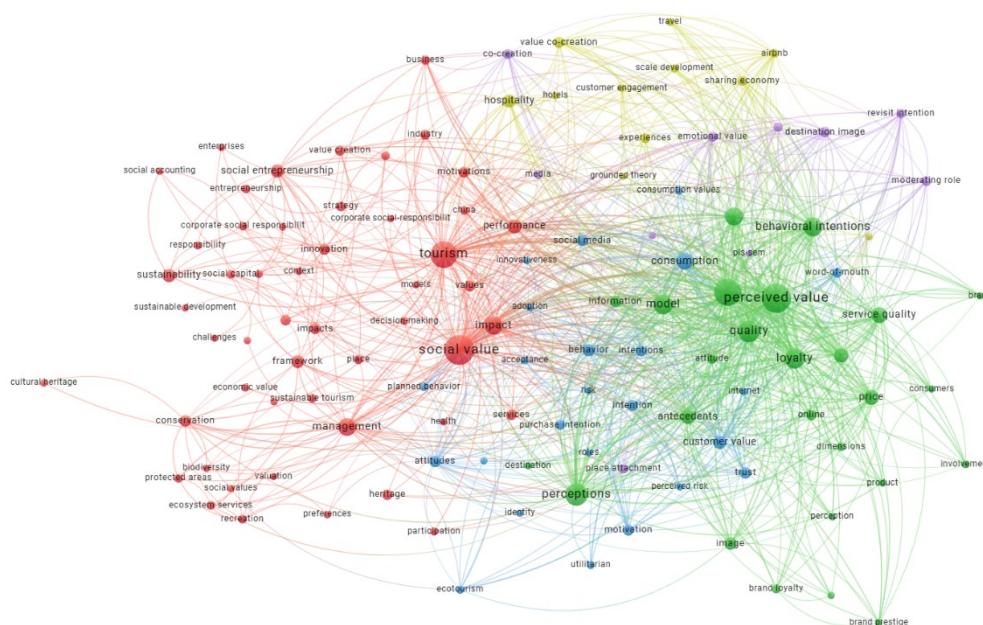
The VOSviewer software, which specializes in the visualization and analysis of bibliometric networks, was also used for the processing. This tool generates networks made up of nodes, where the size of the nodes reflects the number of occurrences of a given entity, the links between nodes indicate the relationships between entities, and the thickness of the links reflects the strength of these relationships. The nodes further form color-coded clusters that identify thematic focus areas (Donthu et al., 2021). In this paper, VOSviewer software was used with the intention of examining keywords used in publications as well as common citations by authors in the field of social value in tourism.

2 Results and Discussion

The results section provides an overview of the current state of research in the area of social value in tourism, making it possible to identify the main trends and contribution of authors in this area. Based on the selected key terms, 350 publications dealing with the topic were identified in the WoS database.

The keyword network of the 350 publications published in the WoS database is shown in Figure 1. The most frequent keywords across the network are social value, tourism, and perceived value, indicating that research in this area focuses on the social importance of tourism and the value perceived by individuals. The keywords are grouped into color-coded clusters to represent the thematic areas of research. It can be argued that the red cluster focuses on themes related to social value and sustainability, the green cluster is related to perceived value, satisfaction and loyalty, the blue cluster addresses customer perceptions and attitudes, the yellow cluster focuses on sharing economy trends, and last but not least, the purple cluster includes concepts that emphasize destination image and visitor experience.

Fig. 1 Key words

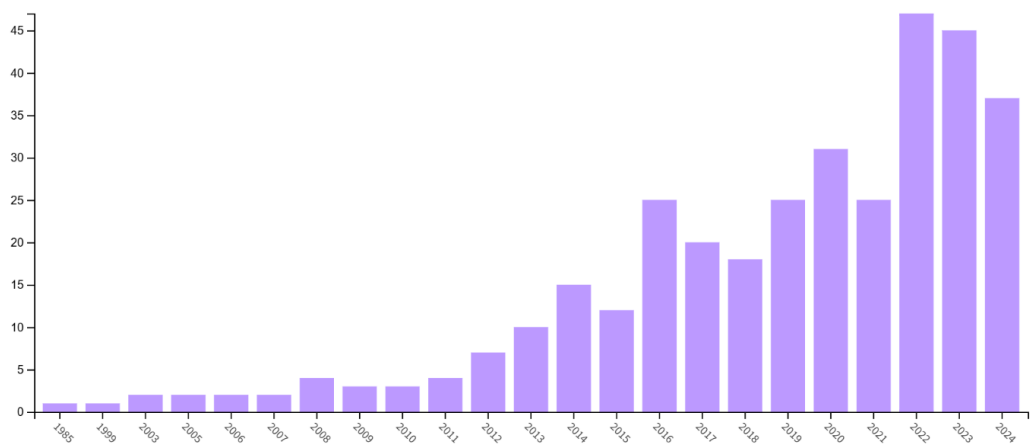


Source: own processing in VOSviewer

Graph 1 shows the evolution of the number of publications focusing on social value in tourism. While from 1985 to 2007 only a few papers were devoted to the topic, the following years have seen a gradual increase in interest. This development points to the perception of the topic as significant in academia only with the onset of the new millennium. Since 2009, the number of publications has been growing, with a slight decrease in 2015 and then a significant increase in 2016. Between 2017 and 2021, there were some fluctuations in the number of publications, until finally reaching a peak in 2022 for the study period 1985 –

2024. Overall, the evolution in the number of publications confirms the importance of exploring social value in the context of tourism as a research topic.

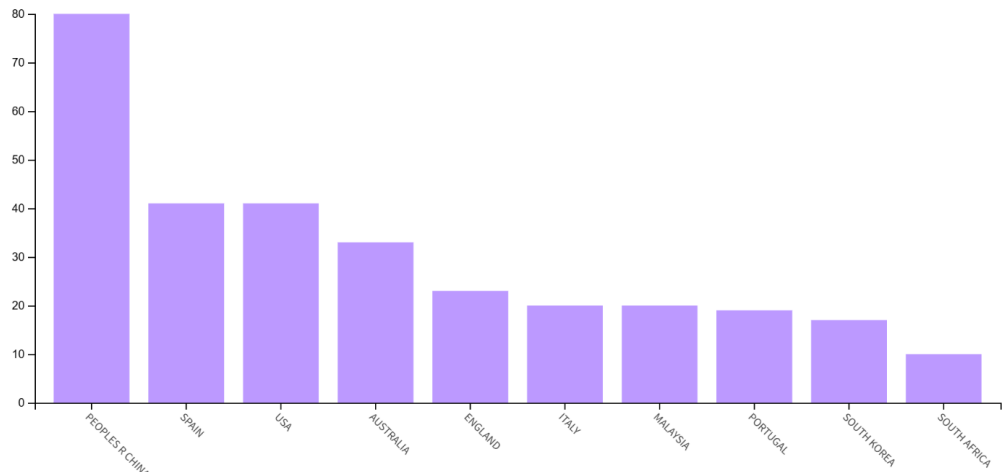
Graph 1 Number of publications in the Web of Science database since 1985



Source: Web of Science – Analyze Results (2024)

Of the 72 countries that published 350 papers on social value in tourism, the largest number of publications came from China (80), followed by Spain and the USA (both with 41 publications), Australia (33) and England (23). The top 10 countries that published on the subject in the WoS database are shown in Graph 2.

Graph 2 Countries with the most publications in the Web of Science database



Source: Web of Science – Analyze Results (2024)

A total of 350 publications dealing with social value in the context of tourism were published by a total of 973 authors. Authors Heesup Han (6), Jinsoo Hwang (5) have the highest number of publications published in the WoS database, followed by 7 authors with 4 publications – Martina G. Gallarza, Pablo Alonso González, Hyunsu Kim, Jie li, S. Mostafa Rasoolimanesh, Marianna Sigala, and Lei Wang. An overview of the authors whose papers have been published in the WoS database is given in Table 1.

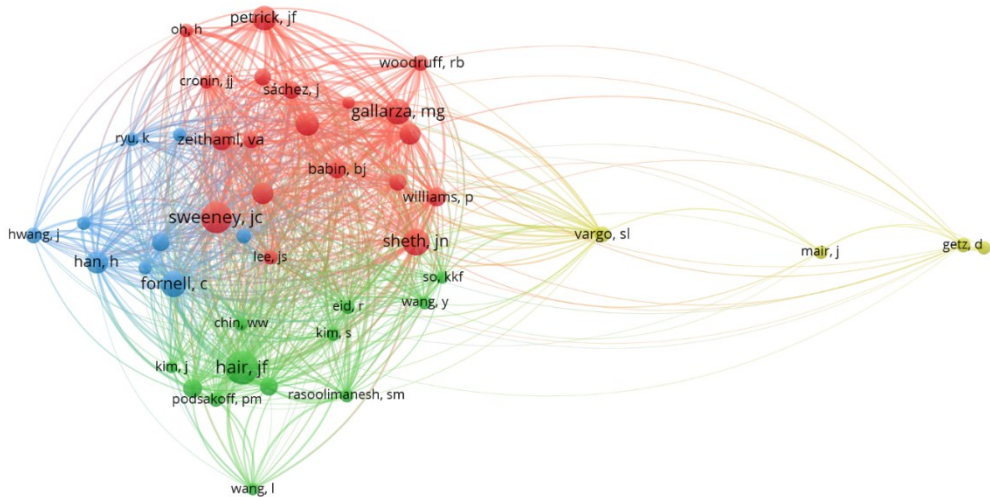
Tab. 1 Authors with the most publications in the Web of Science database

Author's name	Number of publications	Country
Han, Heesup	6	South Korea
Hwang, Jinsoo	5	South Korea
Gallarza, Martina G.	4	Spain
González, Pablo Alonso	4	Spain
Kim, Hyunsu	4	USA
Li, Jie	4	China
Rasoolimanesh, S. Mostafa	4	Australia
Sigala, Marianna	4	Australia
Wang, Lei	4	Malaysia
Chim-miki, Adriana Fumi	3	Brazil
Dedeoglu, Bekir Bora	3	Turkey
Iranmanesh, Mohammad	3	Australia
Jaafar, Mastura	3	Malaysia
Jiménez, Mendoza	3	Spain
Liébana-Cabanillas, Francisco	3	Spain
Ma Monteverde, Perez	3	Spain
Van Riper, Carena J.	3	USA
Ziakas, Vassilios	3	United Kingdom

Source: own processing according to Web of Science – Analyze Results (2024)

A map of author co-citation relationships created in VOSviewer software is shown in Figure 2. A co-citation occurs when two documents are cited in the same third document. In the case of the social value in tourism, the clusters are divided into 4 colors. The red cluster includes authors who mainly focus on consumer behavior and tourism value, the green cluster represents authors focusing on methodological approaches and statistical methods, authors in the blue cluster are known for their focus on customer satisfaction, quality measurement and value, and last but not least, authors presenting the yellow cluster focus on innovative approaches and trends or sustainable tourism. The authors with the highest number of co-citations based on the analysis are J. C. Sweeney, J. F. Hair, but also J. N. Sheth, or M. G. Gallarza.

Fig. 2 Map of authors' co-citation



Source: own processing in VOSviewer

Table 2 lists 25 universities and institutions that have contributed publications to social value research in tourism and have been published in the WoS database. The highest number of papers was published by Sejong University from South Korea (8), while Hong Kong Polytechnic University (Hong Kong), Universidade de Aveiro (Portugal) and Universidade Sains Malaysia (Malaysia) have 7 papers. The diversity of universities and institutions highlights the interdisciplinary and international nature of the research.

Tab. 2 Universities and institutions with the highest number of publications in the WoS database

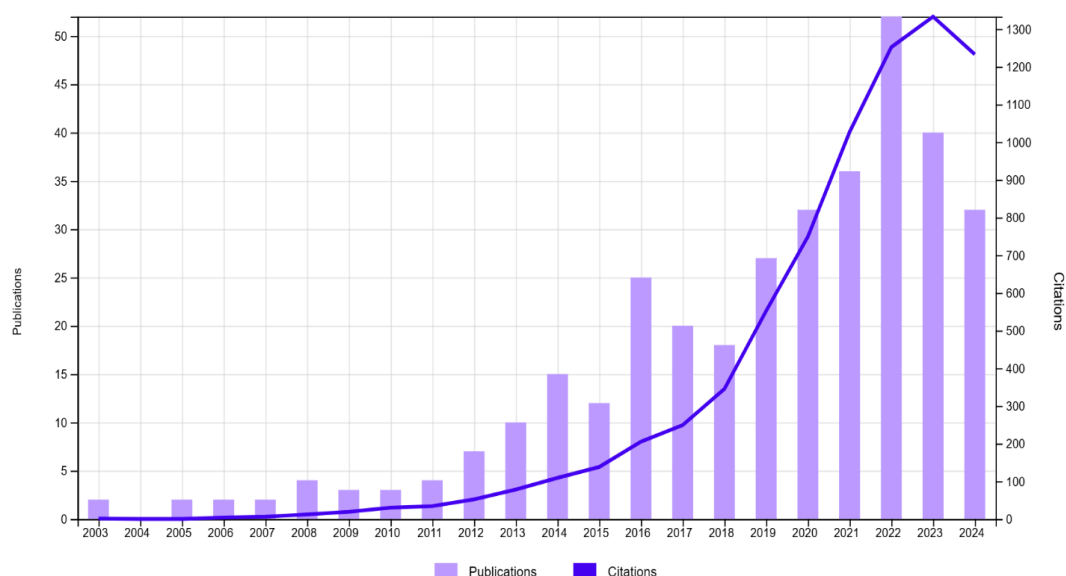
Name of the university/institution	Number of publications	Country
Sejong University	8	South Korea
Hong Kong Polytechnic University	7	Hong Kong
Universidade de Aveiro	7	Portugal
Universiti Sains Malaysia	7	Malaysia
Pennsylvania Commonwealth System of Higher Education	6	USA
University of Illinois System	6	USA
University of Illinois Urbana Champaign	6	USA
University of Valencia	6	Spain
Griffith University	5	Australia
State University System of Florida	5	USA
Universidade da Coruna	5	Spain
Universidade de Coimbra	5	Portugal
University of Queensland	5	Australia

University of Sevilla	5	Spain
Chinese Academy of Sciences	4	China
Consejo Superior de Investigaciones Cientificas	4	Spain
CSIC Instituto de Productos Naturales Y Agrobiologia Ipna	4	Spain
Edith Cowan University	4	Australia
Jinan University	4	China
Nankai University	4	China
Pennsylvania State University	4	USA
Taylor´s University	4	Malaysia
Universidad Catolica de Valencia San Vicente Martir	4	Spain
Universidade de Vigo	4	Spain
Universidade do Algarve	4	Portugal

Source: own processing according to Web of Science – Analyze Results (2024)

Over the study period 2003 – 2024, total 348 publications were cited 7,432 times, and average of 21.36 times per publication. As shown in Graph 3, the year 2022 yielded the highest number of publications on the issue under study, with 52 papers; the highest number of citations (1,333) was subsequently seen in 2023. Over the last 10 years, papers included in the WoS database have been cited a total of 5,379 times, corresponding to an average of 17.41 citations per publication. The period from 2003 onwards is chosen because only 2 articles on the subject were published between 1985 and 2002, but did not achieve any citations during this period.

Graph 3 Number of publications listed in the WoS database and their citations since 2003



Source: Web of Science – Citation Report (2024)

To present the findings from the available literature, a table summarizing key publications by authors from universities with the largest number of outputs (Sejong University, South Korea; Hong Kong Polytechnic University, China; Universidade de Aveiro, Portugal; Universiti Sains Malaysia, Malaysia; Pennsylvania Commonwealth System of Higher Education, USA) on the topic of social value in tourism is presented. As authors from the above-mentioned universities refer to social value as perceived value in their publications, authors who evaluate social value from an economic and societal perspective are also included in the table. Table 3 includes information such as authors' names, titles of publications, year, as well as information on the methods used and the main findings of the studies.

Tab. 3 The authors' findings on the topic of social value in tourism

Authors	Name of publication	Year	Methods and approaches	Results and findings
Hyun, S.S. Han, H.	Luxury Cruise Travelers: Other Customer Perceptions	2015	Structural equation modelling, multigroup analysis	Customer perception has a significant impact on social value, while social value influences brand attachment.
Lee, J.S. Min, C.K.	Examining the Role of Multidimensional Value in Convention Attendee Behaviour	2013	Cluster analysis, discriminant analysis	For conference participants, functional value (usefulness, efficiency) has a greater impact on their evaluation than the social aspect (sense of belonging, social interactions) or tourism-related factors (attractiveness of the location).
Chim-Miki, A.F. Da Costa, R.A. Oliveira-Ribeiro, R.	Tourism coopeition for a better world: a cycle of creation, appropriation and devolution of social value	2024	Least Squares Method	Competition contributes to social value by promoting the creation and redistribution of value for society, thereby balancing the negative impacts of competition.
Rasoolimanesh, S.M. Dahalan, N. Mastura, J.	Tourists' perceived value and satisfaction in a community-based homestay in the Lenggong Valley World Heritage Site	2016	Inquiry method	Perceived value, encompassing functional, emotional, and social aspects, has a significantly positive impact on tourist satisfaction.

Kim, S.B. Sun, K.A. Kim, D.Y.	The Influence of Consumer Value-Based Factors on Attitude-Behavioural Intention on Social Commerce	2013	Modelling structural equations	Consumer attitudes and behaviours in restaurants are influenced by certain value dimensions (i.e., hedonic and societal value). Additionally, significant differences exist between groups with high and low levels of technological knowledge.
Gouveia, A. XS Eusébio, C.	Assessing the direct economic value of cruise tourism in a port of call: The case of Funchal on the island of Madeira	2019	Inquiry method	Cruise participants significantly contribute to the local economy through direct spending on cruise ships and excursions during the voyage, thereby supporting local businesses and creating job opportunities. The authors highlight the need to account for induced benefits in future research.
Yeh, C. C. Lin, C. S. Huang, C. H.	The Total Economic Value of Sport Tourism in Belt and Road Development	2018	Travel Cost method, Contingent Valuation method	Sports tourism during the Sun-Moon Lake Swimming Carnival event in Taiwan generates economic value through direct spending by participants and the perceived value of the event by local residents.
Huaveneers, C. et al.	The economic value of shark-diving tourism in Australia	2017	Inquiry method	The value of dive tourism is created through direct spending by tourists on diving, accommodation, transportation, and other related activities.
Sathiendrakumar, R.	Sustainable Tourism Development: Its feasibility and economic value	2013	Case studies	Sustainable tourism brings value to local communities through job opportunities, improved

				infrastructure, and strengthening the local economy.
Norman, M. Nyarko, N.	Networked Economic Value Creation in Event Tourism: An Exploratory Study of Towns and Smaller Cities in the UK	2020	Inquiry method	Activities organized within event tourism significantly contribute to the creation of economic benefits in cities across the United Kingdom, with an emphasis on local governments developing a formal strategy to maximize value.
Sigdel, T. P.	Socio-Economic Impact of Tourism in Sauraha Chitwan, Nepal	2014	Inquiry method	Tourism in Nepal has contributed, in additions to job creation, primarily to the development of infrastructure, supported cultural exchange, and fostered mutual understanding.
Makmun, M. et al.	The tourism impact on the social economic life of community in Ngargoyoso Sub-district, Karanganyar Regency	2021	Inquiry method	The tourism sector contributes to the development of infrastructure and communication networks in the region.

Source: own processing

Conclusion

The literature review focused on the subject of social value in the context of tourism provided a comprehensive view of a developing area of research. Using the key terms "tourism" and "social value" in the Web of Science database, 350 publications were searched from 1985 to the present, i.e. 2024. A spike in publishing was only noted around 2008, with the largest increases in 2016 and 2022, indicating that the topic is gaining attention from researchers. At the same time, it is important to note that the number of citations of publications has been steadily increasing, confirming their growing scientific impact. The most active country in publishing is China, while the most active authors come from South Korea, with Sejong University, also from South Korea, playing an important role.

A more detailed examination of the content of the publications yielded some conclusions on the issue. It has been shown that social value significantly influences tourists' satisfaction and behavior as well as their perception of brands. Competition in the tourism

industry was also identified as a positive factor promoting value creation for society, which can offset the negative effects of competition. However, tourism, as a global phenomenon, is also key in terms of its economic and societal impact, with the authors focusing on the industry's ability to create jobs, generate income and promote economic development in communities. Findings from the available literature point to benefits through direct visitor spending, while the need to account for their induced benefits is also highlighted. In addition to job creation, tourism contributes significantly to infrastructure development in destinations, cultural exchange and fosters mutual understanding. These findings confirm that social value is an integral part of success in tourism, and understanding and optimizing it can contribute significantly to the development of the sector and the satisfaction of different groups of stakeholders.

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Energy Cooperation Between the EU and Russian Federation Amid Current Geopolitical Changes¹

Viktória Peštová²

Abstract

This article examines the dynamics of energy cooperation between the European Union (EU) and the Russian Federation (RF) in the context of contemporary geopolitical shifts. It explores how recent events, including changes in global political alignments, economic sanctions, and regional conflicts, have impacted the energy partnership between these two entities. The study analyzes key factors driving their mutual dependency in the energy sector, focusing on the EU's reliance on Russian energy resources and Russia's economic reliance on energy exports to the EU. Additionally, the paper evaluates the strategies adopted by both parties to adapt to these challenges, such as the EU's diversification of energy sources and Russia's pivot towards new markets. By assessing the evolving nature of this relationship, the article provides insights into the broader implications for global energy security and international relations.

Key words

Energy cooperation, economic sanctions, European Union, Russian Federation, geopolitical changes, energy security, energy diversification, EU-Russia relations

JEL Classification: F51, Q34, Q37

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Introduction

The interplay between energy cooperation and geopolitics has long been a defining feature of relations between the European Union (EU) and the Russian Federation (RF). As two major global actors, their energy partnership has been shaped by a complex web of mutual dependencies, strategic interests, and external pressures. The EU has historically relied on Russian energy resources—particularly natural gas and oil—to meet a significant portion of its energy demands, while Russia has depended on the EU as a key market for its energy exports, making this relationship vital for both parties.

However, recent geopolitical developments have significantly altered the dynamics of this partnership. Events such as escalating sanctions, conflicts in Eastern Europe, and global energy market disruptions have introduced new challenges and uncertainties. These changes have prompted the EU to accelerate efforts to diversify its energy sources and reduce dependency on Russian supplies. Simultaneously, Russia has sought to mitigate economic pressures by forging new energy partnerships with non-Western markets, including China and India (Góes and Bekkers, 2023).

¹ VEGA 1/0689/23 Udržateľný rast a geopolitika reziliencie v kontexte prevalencie kríz

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This article explores the evolving nature of EU-Russia energy cooperation in the context of these geopolitical shifts. It seeks to analyze the key drivers of this transformation, including economic policies, strategic responses, and the broader implications for global energy security. By examining these factors, the article aims to provide a comprehensive understanding of how energy interdependence and geopolitics intersect in the contemporary international system.

1 Methodology

This article employs a mixed-methods approach to analyze the evolving energy cooperation between the European Union (EU) and the Russian Federation (RF) under the influence of contemporary geopolitical changes. The primary analytical tool used in this research is the **Trade Intensity Index (TII)**, which measures the relative importance of bilateral trade between two partners in comparison to their overall trade with the world. This index is particularly useful for assessing the degree of energy trade interdependence between the EU and Russia over time (The World Bank, 2024).

The Trade Intensity Index is calculated using the following formula:

$$TII = \frac{\left(\frac{x_{ij}}{X_{it}}\right)}{\left(\frac{x_j}{X_{wt}}\right)} \quad (1)$$

where:

TII_{ij}: Trade intensity between country *iii* (EU) and country *jjj* (RF);

x_{ij} – value of the export from the country *i* to the country *j*;

X_{it} – the value of the total export of the country *i* to the world;

x_{wj} – the value of the total world export to country *j*;

X_{wt} – the value of total world export

The index values provide insight into the extent of trade ties, with higher values indicating stronger bilateral trade relations compared to the global average (The World Bank, 2024).

Data for this study were sourced from international trade databases, such as Eurostat, ITC Trade map, and the International Energy Agency (IEA). Energy trade volumes, specifically natural gas and oil, were examined over a 10-year period to capture long-term trends and recent fluctuations.

The analysis focuses on two key aspects: **Trends in Trade Intensity** evaluating how the TII for energy trade between the EU and Russia has evolved, particularly in response to geopolitical disruptions such as sanctions, regional conflicts, and policy changes. **Diversification and Substitution** examining the EU's diversification strategies to reduce dependency on Russian energy and Russia's efforts to develop alternative markets (European Commission 2024).

While the Trade Intensity Index offers valuable insights into trade interdependence, it does not capture the qualitative aspects of geopolitical and strategic considerations influencing energy relations. To address this limitation, the study integrates qualitative analysis of policy documents, agreements, and relevant geopolitical events to provide a holistic view of the EU-Russia energy relationship.

2 Results and Discussion

The analysis of trade intensity between the EU and its energy suppliers reveals significant shifts in the patterns of energy trade over the past decade. Initially, the EU's energy trade was heavily dependent on Russia, with high trade intensity observed between 2014 and 2015. However, following the geopolitical tensions and Russia's actions in Ukraine, the EU has increasingly turned to alternative suppliers such as Azerbaijan, Norway, and the United Kingdom. The trade intensity with Azerbaijan has shown a steady increase, reflecting its growing role as an alternative energy partner. While its trade intensity is still somewhat lower than that of Norway, Azerbaijan's importance in supplying natural gas is undeniable.

Norway, on the other hand, has maintained a stable and robust trade relationship with the EU. The intensity of trade increased significantly after 2020 as the EU sought to reduce its reliance on Russian energy supplies. The United Kingdom, despite Brexit, has also regained its position as a key energy partner for the EU, particularly in the supply of natural gas, LNG, and electricity. The trade intensity with the UK reached its peak in 2022, a sign of the EU's efforts to diversify its energy sources amidst the energy crisis triggered by the geopolitical situation.

These developments indicate a significant shift in the EU's energy strategy, with a clear emphasis on diversification and energy security. The growing trade intensity with alternative suppliers demonstrates the EU's commitment to reducing dependence on a single source and ensuring a more resilient energy supply. Future prospects lie in further enhancing cooperation in areas such as renewable energy, hydrogen, and carbon capture technologies, which are vital for the EU's energy transition and climate goals (European Commission, 2023).

2.1 The Impact of Geopolitical Changes on EU-Russia Trade Relations

The trade relationship between the European Union (EU) and the Russian Federation (RF) has historically been influenced by both economic pragmatism and geopolitical considerations. However, recent geopolitical shifts have profoundly altered the nature and scope of this relationship, particularly in the energy sector, which has been the cornerstone of EU-Russia trade (Chulov and Bond 2016).

The annexation of Crimea in 2014 marked a turning point in EU-Russia relations. In response, the EU imposed a series of sanctions targeting Russian sectors, including energy, finance, and defense. These sanctions significantly disrupted bilateral trade flows by restricting access to European technologies and investments crucial for Russia's energy exploration and production. Trade volumes between the EU and Russia declined sharply post-2014. Energy trade, while initially resilient, began to show signs of strain as the EU initiated measures to diversify its energy sources, such as increasing imports of liquefied natural gas (LNG) (Petersen and Bøås 2019).

The full-scale Russian invasion of Ukraine in 2022 triggered an unprecedented geopolitical crisis, resulting in a near-total breakdown of EU-Russia trade relations. The EU imposed stringent sanctions, including bans on coal and oil imports, financial transactions, and a gradual phase-out of Russian natural gas dependency. The sanctions regime accelerated the EU's pivot towards alternative suppliers like the United States, Qatar, and Norway. Russia, in turn, redirected its exports to non-European markets, particularly China and India, underscoring a significant realignment in its trade strategy (Sharma and Zilli, 2023).

Geopolitical tensions have also fueled the EU's ambition to enhance its strategic autonomy, reducing vulnerabilities arising from external dependencies. Initiatives such as the European Green Deal and the REPowerEU plan aim to transition the EU towards renewable energy and energy independence, further diminishing trade interdependence with Russia. Trade data over the past decade highlights the declining share of Russia in the EU's total trade and vice versa. The share of Russian energy imports in the EU's total energy mix dropped from approximately 40% in 2021 to below 20% by mid-2023, while Russia's total trade with the EU decreased by over 50% between 2014 and 2022. This decoupling reflects not only geopolitical pressures but also structural shifts in global trade patterns (European Commission, 2023).

The decoupling of EU-Russia trade marks a significant departure from decades of economic interdependence. While the EU has diversified its energy imports, Russia has faced increased economic challenges, including reduced export revenues and heightened reliance on Asia, which may result in long-term economic vulnerabilities. The reorientation of energy flows has contributed to volatility in global energy markets. The EU's transition away from Russian energy has driven up demand for LNG, raising prices globally, while Russia's pivot to Asia has altered traditional supply chains (Meister, 2022).

The decline in EU-Russia trade relations has broader geopolitical ramifications, influencing alliances and partnerships. For instance, Russia's closer ties with China and India have redefined its global trade strategy, while the EU's engagement with alternative suppliers has strengthened its partnerships with the United States and Middle Eastern nations (Balfour and Ulgen, 2024).

Geopolitical changes have fundamentally reshaped EU-Russia trade relations, moving them from interdependence to strategic detachment. This transformation highlights the growing intersection of economic policies and geopolitics in shaping global trade patterns. While the EU seeks to enhance its energy security and autonomy, Russia faces the dual challenge of economic adaptation and strategic realignment, marking a new era in their bilateral relationship (Bosone et al., 2024).

2.2 Trade Intensity in EU-Russia Energy Cooperation

Energy trade has been a cornerstone of the economic relationship between the European Union (EU) and the Russian Federation (RF), marked by decades of mutual dependency. To understand the evolving nature of this relationship, this study employs the **Trade Intensity Index (TII)** as a quantitative tool for assessing the relative importance of energy trade between these two entities in comparison to their overall trade activities (Rauf and Latif 2019).

Using trade data from the past two decades, the TII reveals significant fluctuations in the energy trade relationship between the EU and Russia, often aligned with major geopolitical events. The analysis highlights several key trends:

- **Impact of geopolitical disruptions:** following the annexation of Crimea in 2014 and the imposition of EU sanctions on Russia, the TII for energy trade began to decline. These sanctions targeted critical sectors, including energy, limiting technology transfers and investments in Russian energy infrastructure. In response, Russia sought to diversify its export markets, while the EU intensified its efforts to reduce dependence on Russian energy through initiatives like the Energy Union and LNG imports (European Commission, 2022).
- **Current Trends Amid Recent Geopolitical Changes:** Recent geopolitical developments, including the conflict in Ukraine and subsequent sanctions in 2022, have further strained EU-Russia energy relations. Preliminary TII calculations for this period demonstrate a sharp decline in energy trade intensity, reflecting the EU's strategic pivot towards alternative energy suppliers, such as the United States, Qatar, and Norway. Concurrently, Russia has increased energy exports to Asia, particularly China and India, marking a significant realignment of its trade strategy (IEA, 2024).

The declining **TII** underscores the weakening interdependence in energy trade between the EU and Russia. This shift has significant implications. **For the EU** - reduced reliance on Russian energy enhances its energy security but necessitates substantial investments in infrastructure and renewable energy development to offset the shortfall. **For Russia** - the loss of its largest energy market pressures its economy and accelerates its pivot towards new markets, potentially creating long-term vulnerabilities due to overreliance on a narrower range of trading partners.

The findings from the TII analysis suggest that while the EU-Russia energy trade relationship remains pivotal, it is undergoing a fundamental transformation driven by geopolitical tensions and strategic recalibrations. Policymakers on both sides must navigate this transition carefully, balancing economic imperatives with broader geopolitical objectives.

2.3 Trade intensity calculation

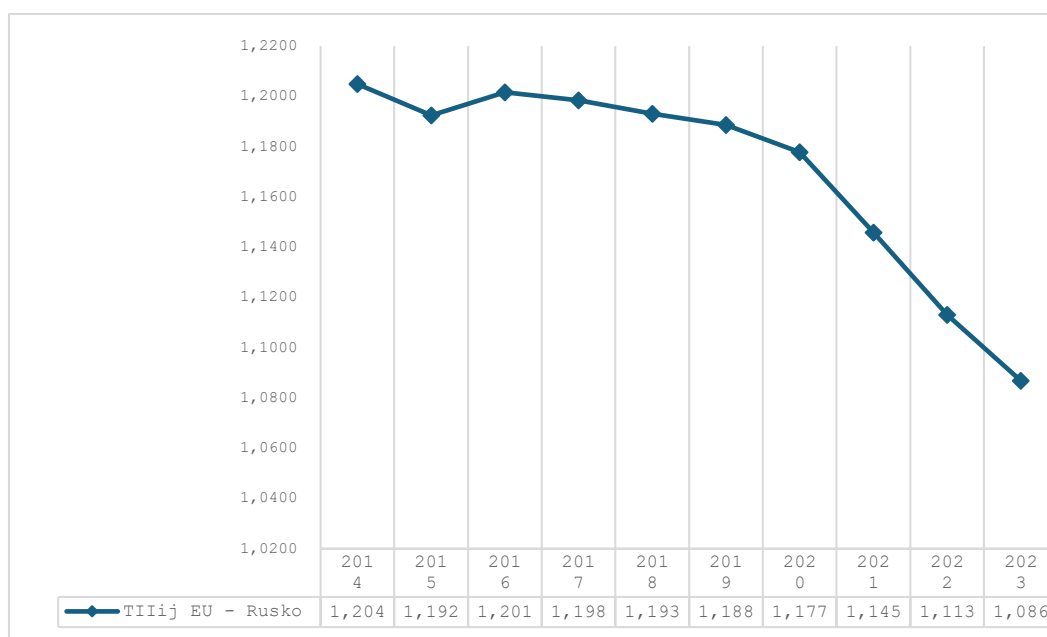
To assess the calculation of the intensity of trade between the EU and Russia in the energy sector, we used the TII index (1), which is used to evaluate whether trade values between two countries are higher or lower than expected based on their position in the global economy. Graph 1 illustrates the development of mutual export intensity between Russia and the EU in the energy sector according to the HS 27 commodity group.

The HS 27 commodity group includes the following commodities (ITC, 2024):

- Petroleum oils and oils obtained from bituminous minerals;
- Coke and semi-coke of hard coal, lignite, or peat, also agglomerated; retort carbon;
- Petroleum gas and other gaseous hydrocarbons;
- Pitch and pitch coke obtained from coal tar or other mineral tars;
- Oils and other products of the distillation of high-temperature coal tar; similar products;
- Petroleum jelly, paraffin, microcrystalline petroleum wax, paraffin wax, ozokerite, lignite;
- Bituminous mastics, cuttings, and other bituminous mixtures based on natural asphalt, on natural;
- Peat, peat litter, also agglomerated;

- Electric energy;
- Tar distilled from coal, lignite, or peat and other mineral tars;
- Petroleum coke, petroleum bitumen, and other residues of petroleum oils;
- Coal; briquettes and similar solid fuels made from coal;
- Natural bitumen and asphalt; bituminous or oil shales and bituminous sands, asphaltites, and asphalts;
- Lignite, also agglomerated (except for nozzle);
- Coal gas, water gas, producer gas, low gas, and similar gases (except for petroleum gases);
- Petroleum oils and oils obtained from bituminous minerals.

Graph 1 Development of the mutual trade intensity between the EU and Russia in energy commodities of the HS 27 group for the period 2014 - 2023.



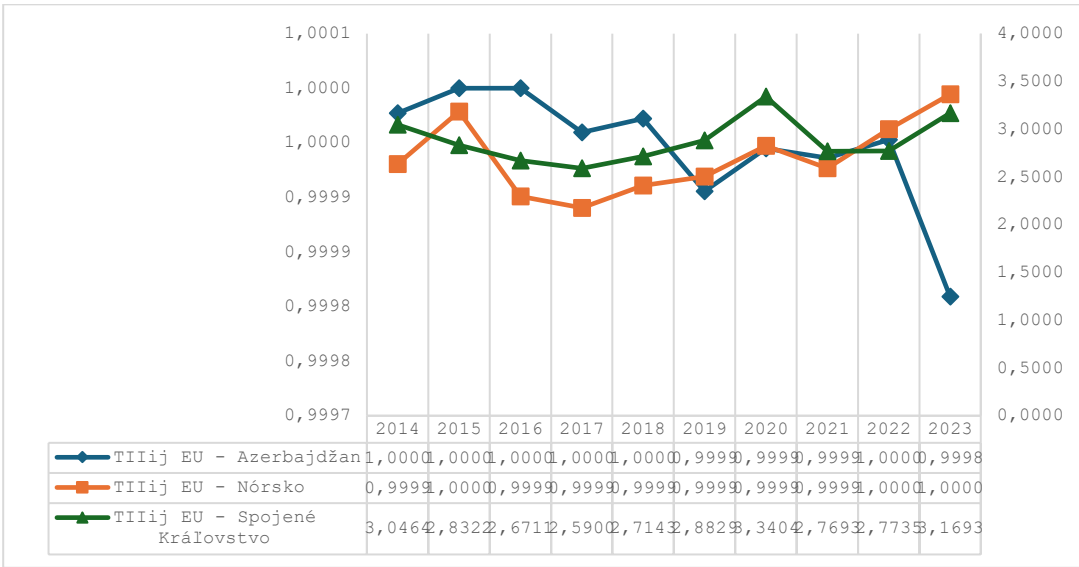
Source: V. Peřtová on the basis of data, ITC trade map 2024

The EU was significantly dependent on the supply of energy resources, which is why the intensity of commodity exchange in this sector was very high in the past. According to Graph 1, we can observe that the intensity of mutual trade between Russia and the EU during the period 2014 – 2022 was generally stable, with a slight fluctuating trend, where the value remained around 1.9 until 2022, when it began to decline. However, on Graph 1, we can notice a sharp drop in the intensity of mutual trade, which can be attributed to the occurring political and economic situations, as well as geopolitical changes that significantly influence the development of foreign trade between these partners. Since the value of the indices is greater than 1, we can conclude that Russia's export activity to the EU is still at a decent level.

Graph 2 illustrates based on the data from database ITC trade map, the development of trade intensity with countries that are currently considered potential alternatives for the

supply of energy commodities under the HS 27 commodity group. Potential alternative partners in the exchange of energy commodities are Azerbaijan, Norway, and the United Kingdom (which, after Brexit, is classified as a third country).

Graph 2 Development of the mutual trade intensity between the EU and selected countries in energy commodities of the HS 27 group for the period 2014 - 2023.



Source: V. Peštová on the basis of data, ITC trade map 2024

In the case of the trade intensity development between the EU and Azerbaijan shown in Graph 1, the trend starts at a stable level, but between 2016 and 2018, there is a slight decline. Since 2020, we have observed an increase, which peaked in 2022, while in 2023, it slightly decreased again. This suggests the growing importance of Azerbaijan as an alternative energy supplier for the EU. This development is related to the increasing need to diversify the EU's energy sources after the restrictions on supplies from Russia. Azerbaijan is a strategic partner for the EU in the supply of natural gas and oil, particularly in light of the need to diversify energy sources. The Southern Gas Corridor is a key infrastructure that ensures the supply of gas from Azerbaijan to Europe. Opportunities in renewable energy and hydrogen could further strengthen cooperation in the future. Azerbaijan thus plays an increasingly important role in the EU's energy policy and offers promising opportunities for future collaboration (IEA, 2024).

In the case of the trade intensity development between Norway and the EU, the trend evolves similarly to the trade intensity between Azerbaijan and the EU. In 2014 and 2015, the intensity of trade cooperation between the EU and Norway is stable, fluctuating around the value of 1.000. Between 2016 and 2019, there is a slight decline, which may be related to a short-term decrease in demand and price fluctuations in the oil and natural gas markets. Then, between 2020 and 2023, we see an increase in trade intensity, which is maintained until the end of the observed period. The reason for this is the growing dependency of the EU on Norwegian gas supplies following the crisis in 2022. However, Norway remains a reliable partner in the field of energy security. Thus, Norway remains a key partner for the

EU with increasing significance following the geopolitical changes in the energy market. Norway is a strategically important partner for the EU in energy due to its stable production of gas, oil, and renewable electricity. Natural gas from Norway is crucial for the EU's energy security, particularly after 2022. Hydropower and electricity exports strengthen the stability of energy grids in Europe. Cooperation in the field of hydrogen and CCS (Carbon Capture and Storage) technology for capturing and storing carbon dioxide (CO₂), which helps reduce greenhouse gas emissions, opens new opportunities to achieve climate goals. Therefore, Norway will play a key role in the coming years in the energy transition to renewable resources and the overall energy security of the EU (Norwegian Offshore Directorate, 2024).

Among the strong strategic partners in the energy sector trade, we also include the United Kingdom, as it is now classified as a third country following Brexit. The trade intensity between 2014 and 2015, when the United Kingdom was still an EU member, is high (above 3.800), indicating a strong mutual dependence in energy supplies. Between 2016 and 2018, there is a decline in trade intensity, likely due to Brexit and uncertainty regarding the future trade framework. Changes in the global energy market (e.g., the drop in oil and gas prices) also contributed to this decline. In the years 2019 – 2021, we again observe an increase in trade intensity, reflecting the restoration of trade relations in preparation for the United Kingdom's future trade partnership with the EU. Between 2022 and 2023, trade intensity peaks (around 3.800), which may be related to the EU's efforts to diversify energy supplies following Russia's invasion of Ukraine in 2022. The United Kingdom has regained an important role as a stable and secure trading partner. Energy cooperation between the EU and the United Kingdom remains strong and strategically significant, despite the challenges posed by Brexit. The United Kingdom is a key partner for the EU in natural gas, LNG, and electricity supplies. The growing trade in recent years (2022 – 2023) is a response to the energy crisis and the need for supply diversification. Future opportunities lie in deepening cooperation in renewable energy, electricity interconnections, and hydrogen technologies (BP Energy Outlook, 2024).

Through this analysis, we can conclude that the EU has significantly reduced its dependence on Russia in energy trade, particularly since 2020. Azerbaijan has become an important supplier, but its trade intensity is slightly lower than that of Norway. Norway and the United Kingdom appear as the most stable and growing partners for the EU's energy trade.

Conclusion

In recent years, the European Union has significantly restructured its energy trade relationships, particularly in response to geopolitical challenges and the necessity to diversify its energy sources. The reliance on Russian energy supplies has notably decreased, especially since 2020, following Russia's actions in Ukraine. As a result, the EU has increasingly turned to alternative energy suppliers such as Azerbaijan, Norway, and the United Kingdom, each playing a key role in meeting the EU's energy demands.

Azerbaijan has emerged as a valuable partner, with trade intensity showing growth due to the need for diversification, though its commercial exchange remains slightly lower than that of Norway. Norway, with its stable supply of natural gas, oil, and renewable energy, continues to be one of the EU's most reliable and strategic energy partners. Similarly, the United Kingdom, despite the challenges brought on by Brexit, has regained its importance as a secure energy supplier, especially in the wake of the 2022 energy crisis.

The growing trade intensity with these countries reflects the EU's strategic efforts to mitigate supply risks and enhance energy security. Looking ahead, there are significant opportunities for deeper cooperation, particularly in the fields of renewable energy, hydrogen technologies, and carbon capture, all of which are critical for the EU's energy transition and climate goals.

In conclusion, the EU's energy landscape has shifted towards more diversified, stable, and sustainable partnerships, paving the way for a more resilient energy future. The ongoing collaboration with Azerbaijan, Norway, and the United Kingdom highlights the importance of strategic diversification to ensure the EU's energy security and its transition to a greener economy.

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Vzťahy s médiami a sociálne siete ako súčasť krízovej komunikácie¹

Lukáš Piatra²

Media relations and social media as a part of crisis communication

Abstract

An integral part of PR is crisis management, which includes crisis communication. Social networks have a big impact on changes in crisis communication. It has become the most effective means of communication in the world in a short span of time due to the possibility of sharing, networking and the power and ability of mass posting. Social media like Facebook, Twitter, Instagram, Tiktok and more are creating a new era of crisis communication between the organization and its stakeholders. The aim of this paper was based on the quantitative survey to verify the importance of social media and media relations in crisis communication and showcase the possibilities that social media are offering. Social media sites such as Facebook and Twitter have proven to be relevant source of the information and people tend to look for an information there. Online news media such as Aktuality or Denník and have shown to be the credible and relevant source of the information on social media.

Key words

PR, crisis communication, crisis management, digital environment, social media, media relations

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Úvod

Krízy v podniku či v spoločnosti nie sú nikdy vítaným javom. Avšak v poslednej dobe sa s nimi stretávame čoraz častejšie. Dnes stojí na prachu prežitia čoraz viac spoločností v dôsledku nezvládnutých krízových situácií. Pri pohľade na teoretickú rovinu významu kríza sa stretávame s autormi, ktorí k definícií významu slova pristupujú z viacerých uhlov pohľadu. Napriek niekoľkým rôznym definíciám v súčasnosti neexistuje žiadna jedinečná, všeobecne akceptovaná definícia krízy, ktorá môže okrem iného odkazovať na katastrofu a núdzovú situáciu.

Riggio (2023) tvrdí, že neexistuje situácia, v ktorej by bol manažment dôležitejší, ako v čase krízy. Krízy vo veľkej miere zaťažujú organizácie a vyžadujú si rýchle rozhodnutia. Možno preto, že krízy sú zvyčajne chápané ako náhle a neočakávané udalosti a pretože mnohé krízy sú rýchlo vyriešené, výskum venoval krízovému manažmentu relatívne malú

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pozornosť. Na krízy sa vo veľkej miere pozerá z pohľadu manažmentu, ktorý obsahuje predvídanie a prípravu na rôzne krízové scenáre a vytvorenie tímov ktoré budú aktivované v prípade nečakanej udalosti (Riggio, 2023).

Podľa odborníkov existuje dôležitý rozmer krízovej komunikácie organizácie, ktorá sa rozširuje aj na krízovú komunikáciu prostredníctvom sociálnych médií. Pri používaní sociálnych médií môžu organizácie reagovať na otázky a obavy zainteresovaných strán, čo môže viesť k zlepšeniu organizačného chápania krízových potrieb, poskytnúť väčšiu prehľadnosť a zachovať alebo zlepšiť reputáciu organizácie (Roshan, 2016).

Napriek dôležitosti sociálnych médií je pre podniky stále náročné efektívne využívať sociálne médiá na krízovú komunikáciu (Li, 2023).

Internet a sociálne siete ako Facebook, Twitter, Instagram, Pinterest a ďalšie vytvárajú novú éru krízovej komunikácie medzi organizáciou a verejnosťou. Na jednej strane organizácie vie efektívne využiť sociálne siete na interakciu s veľkou masou diverzifikovaných ľudí (Bennett & Lyengar, 2008). No na druhej strane so vznikom a výmenou obsahu vytvoreného používateľmi vytvárajú sociálne médiá živú pôdu pre krízy alebo riziká. Štúdie 16 medzinárodných spoločností (USA, Čína, Francúzsko, Nemecko a Mexiko) zistili, že 36 % kríz bolo spôsobených zlyhaniami digitálnej bezpečnosti alebo negatívnou publicitou v nových médiách (Burson-Marsteller, 2011). Aké nové trendy môžeme sledovať v krízovej komunikácii s neustálím nárastom používania sociálnych sietí?

Vzťahy s verejnosťou (ďalej ako PR) Sú interaktívny systém, ktorý využíva jeden alebo viacej komunikačných nástrojov za účelom získania merateľného efektu. PR vzniklo na prelome 19. a 20. storočia pri neustálej snahe politikov zlepšovať svoj imidž pred verejnosťou. Existuje veľa konceptov a definícií pre PR. Populárnu definíciu ponúka nadácia pre výskum a PR vzdelanie: PR je charakteristická funkcia manažmentu, ktorá pomáha vytvoriť a udržať komunikáciu, porozumenie, akceptáciu a kooperáciu medzi organizáciou a jej používateľmi. PR sa teda nesústreďuje na produkt ale sústredenie smeruje na organizáciu ako celok. Hlavným cieľom PR je dosiahnuť porozumenie publika a vplyvať na (ovplyvňovať) verejnú mienku. Smerom k verejnosti môžeme PR rozdeliť na nasledujúce oblasti:

- vzťahy s médiami,
- externá a interná komunikácia spoločnosti,
- organizovanie udalosti,
- lobbying,
- public affairs,
- krízová komunikácia.

PR komunikácie nie je len o pozitívnych informáciách a novinkách organizácie ale aj o riešení krízových situácií. Podľa Příkrilovej a Jahodovej (2010) skôr ako akákoľvek kríza nastane, mala by každá firma previesť krízový audit, t.j. vytypovať rôzne riziká a tie kategorizovať. Následne po krízovom audite je potrebné vykonať plán krízovej komunikácie – čo sa bude diať, keď sa niečo stane. Krízový manažment, v prípade krízovej situácie, je proces pozostávajúci z aktivít vyhodnocujúcich krízové znaky a následné aplikovanie potrebných opatrení za účelom zotavenia sa z krízy s minimálnymi stratami (Simola, 2014).

V dnešnej dobe je potrebné zvažovať kde, kedy, ako a v čom sa môže kríza vyskytnúť, koho a koľkých ľudí môže byť ovplyvnených.

V skratke, organizácia musí začať krízový manažment skôr ako sa kríza v skutočnosti objaví. PR je efektívny komunikačný faktor pred, počas a aj po kríze (Civelek, 2019). V čase krízy je PR manažment dôležitý. PR program sa vtedy realizuje v dvoch fázach. Prvá fáza je akceptovanie existencie krízy, získavanie informácií o nej a mobilizovanie tímu krízového manažmentu, ktorý bol sformovaný počas príprav na krízu. Druhá fáza informuje prostredie organizácie o kríze, informuje zamestnancov, informuje cieľové publikum a informuje médiá (Coombs W. T., 2015).

Trendy krízového manažmentu poukazujú na potrebu riešiť krízové situácie formou „a priori“. Nie vždy je možné predpovedať všetky možné ohrozenia a nastaviť fungovanie systému tak, aby bola dosiahnutá jeho bezpečnosť (Hlasný, 2023). Nové trendy krízovej komunikácie sa na základe dostupných zdrojov týkajú vo veľkej miere sociálnych médií. Jeden z týchto trendov sa týka veľkého potenciálu sociálnych médií a to monitorovanie verejnej mienky. Sociálne siete môžu teda slúžiť ako nástroj na počúvanie verejnosti a verejnej diskusie v médiách ako súčasť rizikového a krízového manažmentu (Howell, 2015). Organizácie by mali skenovať sociálne médiá, monitorovať ich prostredie z hľadiska nových problémov a tiež byť proaktívni a včas sledovať online problémy medzi verejnosťou (Krishna & Vibber, 2017). Sociálne siete ako Facebook, Instagram, Twitter, LinkedIn, YouTube poskytujú priestor na spájanie ľudí a vytváranie online komunít na zdieľanie informácií a vyjadrenie názoru na široké spektrum tém, ktoré ovplyvňujú naše životy. Rastúci význam Instagramu ako rozhodujúceho distribučného kanála vyvíja tlak na rozvoj publika pre komerčné subjekty. (Kuchta, 2019). Organizácie vo všeobecnosti musia plánovať a predpovedať krízu a pristupovať k nej tak, že zverejnia informácie v médiách vždy, ak takáto situácia nastane (Kalogiannidis, 2018). V čase krízy, prírodnej alebo spôsobenej človekom, sa využitie sociálnych sietí mnohonásobne zvyšuje. Používatelia sociálnych sietí sa snažia v čase krízy komunikovať so svojou rodinou vo väčšej miere ako pred krízou, alebo vyhľadávajú a zdieľajú informácie týkajúce sa krízy. V kontexte podnikovej komunikácie môže kríza vyvolať veľa diskusie v sociálnych médiách a organizácie musia byť proaktívnymi a aktívnymi účastníkmi pri používaní dialogickej stratégie na posilnenie organizačných predstáv (Spence, Lachlan, Sellnow, Rice a Seeger, 2017). Stratégia dialógu a vedenia diskusie môže napríklad zapojením zainteresovaných strán prostredníctvom sociálnych médií pomôcť organizáciám nájsť najlepšie riešenia ako reagovať na krízu (Romenti, Murtarelli a Valentini, 2014).

Najbežnejšie odporúčanie identifikované vo vzorke článkov sa týkalo potreby rozvoja dialógu medzi podnikom a verejnosťou a výber správneho posolstva, médiá a načasovania pre efektívnu krízovú komunikáciu na sociálnych médiách. Zdá sa, že efektívny dialóg spočíva hlavne preukázaní, že organizácia počúva dotknutých alebo kritických občanov a spotrebiteľov počas krízové situácie, aj keď počas krízy sociálnych médií nie je ľahké dosiahnuť skutočný dialóg (Ott & Theunissen, 2015). V kontexte podnikovej komunikácie môže kríza vyvolať veľa diskusie v sociálnych médiách a organizácie musia byť proaktívnymi a aktívnymi účastníkmi pri používaní dialogickej stratégie na posilnenie organizačných predstáv (Spence, Lachlan, Sellnow, Rice a Seeger, 2017). Táto stratégia môže napríklad zapojením zainteresovaných strán prostredníctvom sociálnych médií pomôcť organizáciám nájsť najlepšie riešenia ako reagovať na krízu (Romenti, Murtarelli a Valentini, 2014).

Dôležitosť sa prikladá s cieľom efektívneho využitia sociálnych médií na krízovú komunikáciu v urobení si priateľov skôr, ako ich podnik bude potrebovať (Park et al., 2011). Toto odporúčanie sa týka aj potreby pochopenie logiky sociálnych médií a potreby plánovania strategického využívania sociálnych médií ešte predtým, ako organizáciu zasiahne kríza. Ak verejnosť ani nevie, kde hľadať informácie, prípadne kde a ako môžu prispieť vlastnými informáciami, krízové informácie zrejme nebudú efektívne (Guo, 2017). Getchell a Sellnow (2016) uvádzajú ako ďalší príklad, že organizácia by sa mala etablovať vo sfére sociálnych

médií pred rizikom a/alebo krízou a preukázať, že organizácia je tu na to, aby šírla informácie, komunikovala a počúvala. Dobrá príprava na sociálnych médiách môže dokonca zvýšiť šancu stať sa počas krízy hlavným informačným tokom a obmedziť šírenie nekontrolovaných a nepravdivých informácií.

1 Metodika práce

Cieľom tejto práce bolo na základe predvýskumu overiť dôležitosť vzťahov s médiami a sociálnych sietí v čase krízovej komunikácie. Empirická časť príspevku a výsledky sú založené na kvantitatívnom pred prieskume, ktorý pozostával z dotazníka. Súbor bol definovaný ako slovenskí konzumenti mediálneho obsahu. Respondenti boli teda filtrovaní na základe dvoch charakteristík, príslušnosti k slovenskej národnosti a prístup k internetu. Dôvodom tejto špecifikácie je skúmanie určitej skupiny, u ktorej sa očakáva určitá konzistentnosť správania. Prieskum bol realizovaný s využitím online dotazníkového pred prieskumu. Na výpočet veľkosti vzorky sme využili vzorec (1), kde N je veľkosť populácie. Veľkosť populácie sme vypočítali ako rozdiel všetkých obyvateľov slovenskej republiky a detí do 15 rokov. Celkovo bola veľkosť populácie 4424283 obyvateľov. Prípustné rozpätie chýb (e) je 10% a rozptyl (p) sme zvolili 50%. Hladina spoľahlivosti (z) je v tomto prípade 95%. Z vyššie uvedeného vzorca po dosadení údajov sme zistili, že na to, aby sme predvýskum mohli vykonať, potrebujeme 98 respondentov, čo sa nám podarilo dosiahnuť.



(1)

V príspevku bola použitá metóda CAWI, čo znamená, že dotazník bol anonymný a elektronicky prístupný požadovanej vzorke. Výsledky sú spracované pomocou deskriptívnej a indukčnej štatistiky. Cieľom deskriptívnej štatistiky je opísať vzorku, ambíciou je však charakterizovať zistené vlastnosti na populácii. Respondenti odpovedali na päť otázok, ktoré zisťovali využívanie sociálnych médií a boli spracované pomocou koláčového grafu. Rovnako respondenti dostali 4 otázky ohľadom dôveryhodnosti sociálnych sietí, na ktoré odpovedali pomocou päťbodovej škály.

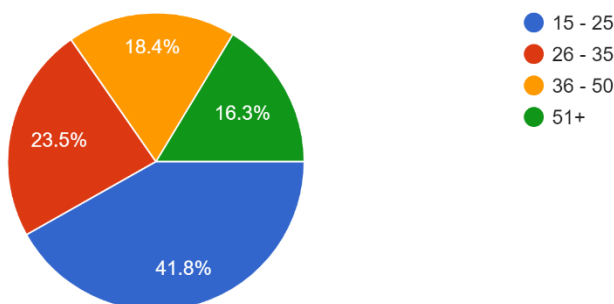
2 Výsledky a diskusia

Ako nám teória ukázala, tak sociálne siete sa stávajú neoddeliteľnou súčasťou, krízovej komunikácie. Rastúci záujem o zoznamy odporúčaní pre používanie sociálnych médií počas kríz sa však neobmedzuje len na vypracovanie pravidiel rôznych druhov organizácií pre používanie sociálnych médií počas kríz, katastrof a mimoriadnych udalostí. Počas posledného desaťročia ponúкло množstvo vedeckých štúdií aj praktickým odborníkom na online a sociálnu mediálnu krízovú komunikáciu praktické dôsledky a/alebo "osvedčené postupy" v oblasti informatiky, marketingu, vzťahov s verejnosťou a strategickej komunikácie ako aj výskumu v oblasti katastrof a krízového manažmentu. Cieľom tejto práce bolo na základe predvýskumu overiť dôležitosť vzťahov s médiami a sociálnych sietí v čase krízovej komunikácie. Spolu bolo formulovaných 12 otázok, z ktorých 6 sme využili na naplnenie cieľa tohto príspevku. Dotazník bol koncipovaný pre mužov aj ženy vo veku od 15 do 60 rokov.

Graf 1 Vekové rozhranie respondentov

Aký je váš vek?

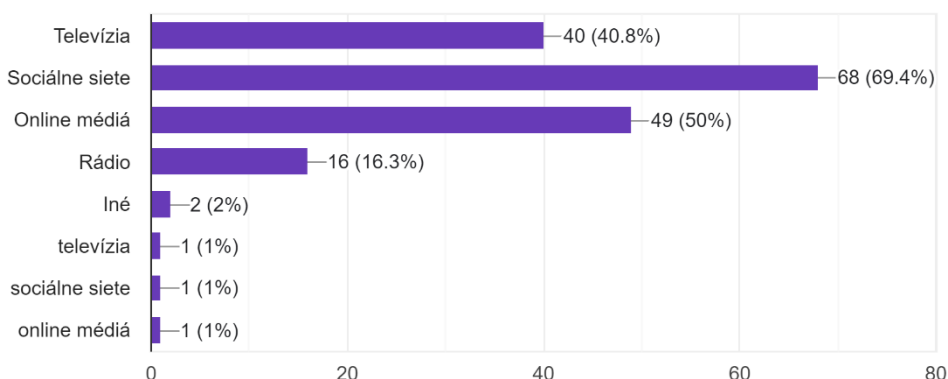
98 responses



V našom kvantitatívnom prieskume sme mali nasledovné zastúpenie vekového rozhrania (graf č.1). Najväčšie zastúpenie, a teda 41,8% respondentov mala veková hranica od 15 do 25 rokov, ktorú tvorili prevažne študenti na vysokých školách. Druhá najpočetnejšia skupina respondentov (23,5%) bola vo veku od 26 do 35 rokov a tesne nasledovali skupiny od 36 do 50 rokov (18,4%) a 51 a viac rokov (16,3%).

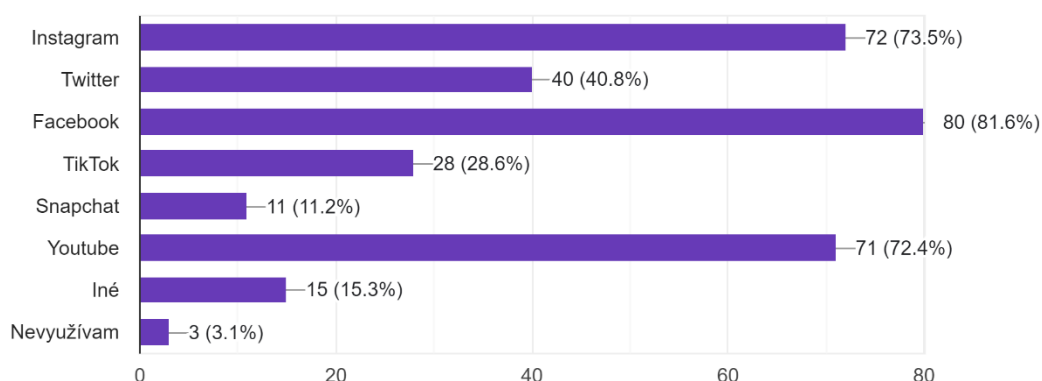
Ďalšia otázka sa zaoberala najviac konzumovanými médiami. Touto otázkou sme chceli zistiť, aké médium je v prípade krízy najviac využívané. Na grafe 2 je vidieť, že značne najväčšia časť respondentov venuje pozornosť sociálnym sieťam, a to vo výške až 69,4%. Neskôr v nasledujúcej otázke sme sa hlbšie zamerali na konkrétne sociálne siete. Druhé najpočetnejšie zastúpenie mali online médiá (online noviny a časopisy alebo webové stránky) (50%), televízia (40%). Medzi najmenej zastúpené médium patrí rádio (16,3%).

Graf 2 Najčastejšie využívané médiá respondentov



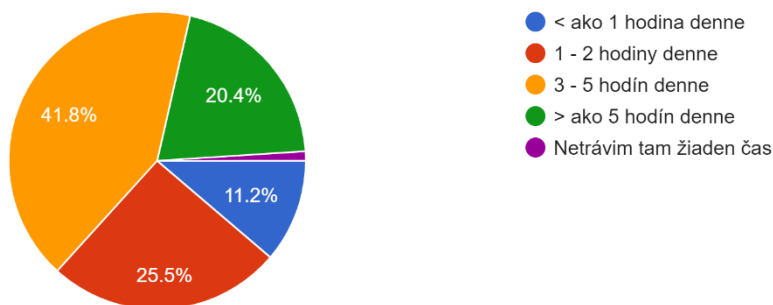
Ako bolo vyššie spomenuté, v tretej otázke bola pozornosť venovaná tomu, ktoré sociálne siete respondenti najviac využívajú (graf č.3). Najväčšie zastúpenie mala najväčšia sociálna sieť Facebook (81,6%), a to aj z toho dôvodu, že má zastúpené široké portfólio spotrebiteľov, z rôznych vekových skupín. S porovnateľne rovnakým výsledkom nasleduje Instagram (73,5%), ktorý využíva pomerne mladšia cieľová skupina ako Facebook.. Môžeme vychádzať z toho, že najväčšie zastúpenie respondentov v našom prieskume je generácia Z, a teda generácia, ktorá sa v najvyššej miere nachádza práve na sociálnej sieti Instagram. Na treťom mieste je YouTube (72,4%). Len 3,1% respondentov uviedlo, že sociálne siete nevyužívajú a 15,3 % uviedlo, že používajú iné sociálne siete ako spomenuté v dotazníku.

Graf 3 Najčastejšie využívané sociálne siete



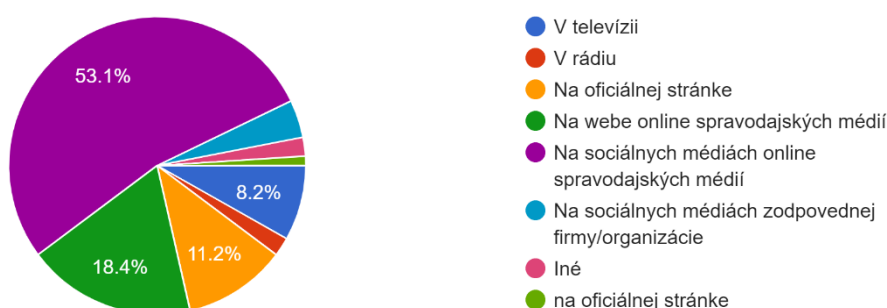
Na základe odpovedí z grafu 4 sme zistili, že až 41,8% respondentov trávi 3-5 hodín denne na sociálnych sieťach. Podľa doterajších výskumov priemerný Slovák strávi na sociálnych sieťach 3 hodiny. Hranica, koľko trávi priemerný Slovák na internete sa časom stále posúva. 25,5% respondentov trávi na internete 1 až 2 hodiny, čo v tomto prípade znamená podpriemer z doteraz uvedených výsledkov a 20,4% viac ako 5 hodín denne. Môžeme predpokladať, že títo respondenti na sociálnych sieťach pracujú, a teda je značné, že priemerne strávený čas na sociálnych sieťach je viac ako 5 hodín. Len 1% respondentov netrávi na sociálnych sieťach žiaden čas. V prípade realizovaného predprieskumu ide konkrétne o 1 človeka.

Graf 4 Čas strávený na sociálnych sieťach



Ďalšia otázka sa už konkrétne dopytovala na zdroj informácií, ktorý respondenti vyhľadávajú v čase krízy. Z výsledkov vidíme, že najviac vyhľadávaný zdroj (53,1%) sú sociálne siete online spravodajských médií. Túto informáciu môžu využiť spoločnosti na to, aby prostredníctvom online spravodajských médií informovali spotrebiteľov o kríze. Takýmto spôsobom sa môžu informácie dostať k spotrebiteľom v značnej miere rýchlejšie, ako prostredníctvom webovej stránky online spravodajských médií, čo predstavuje 18,4%. Následne 11,2% respondentov označilo odpoveď oficiálna stránka, že primárny zdroj informácií v čase krízy sú sociálne siete online spravodajských médií, a na oficiálnej stránke spoločnosti si informácie dohľadávajú alebo overujú. Televízia nie je primárne médium vyhľadávané v čase krízy, a teda iba 8,2% respondentov uviedlo televíziu ako primárne médium a rovnako tak rádio, ktoré s 3% sa umiestnili na jednej z posledných miest.

Graf 5 Primárne vyhľadávané médium v čase krízy

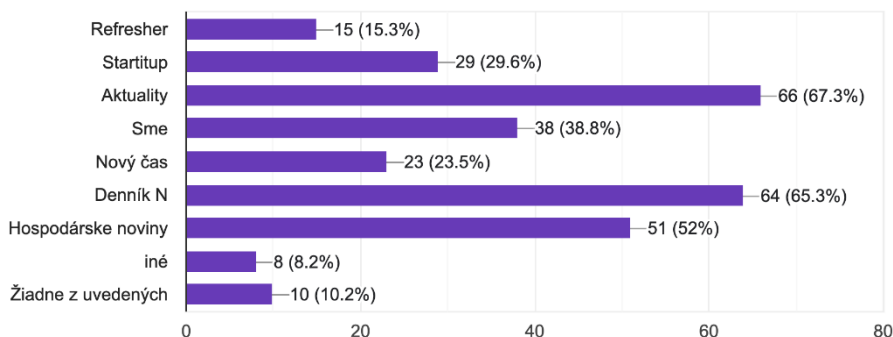


V ďalších otázkach sme sa respondentov dopytovali na dôveryhodnosť jednotlivých spravodajských webov (graf 6.). Vybrali sme vzorku najznámejších online médií na Slovensku. Medzi najdôveryhodnejšie online spravodajské médiá patria Aktuality a Denník N, ktorým dôveruje viac ako 65% respondentov. Za najmenej dôveryhodné médiá sa považujú Refresher (15,3%), Nový čas (23,5%) a Startitup (29,6%).

Graf 6 Dôveryhodné spravodajské weby v čase krízy

Ktoré spravodajské weby považujete za dôveryhodný zdroj informácií?

98 responses



Záver

Na základe výsledkov realizovaného predvýskumu, ktorý vznikol z dotazníka možno dedukovať, že sociálne siete sú relevantným kanálom počas krízovej komunikácie. Až 69,4% respondentov využíva sociálne siete (graf č. 2) a až 48,5% uviedlo (graf č. 4), že tam trávi 3 až 5 hodín denne a spolu až 87,7% tam trávi viac ako 1 hodinu denne. Na základe týchto dát nie je prekvapením to, že až 61,3% (graf č. 5) vyhľadáva informácie v čase krízy ako prvé na sociálnych sieťach, či už spravodajských médií alebo zodpovednej organizácie. Na základe zozbieraných dát sa môžeme domnievať, že potenciál a priestor na komunikáciu na sociálnych médiách je značný a mali by ho využívať na koľko väčšina respondentov vyhľadáva informácie ako prvé priamo tam. Následne sme sa dopytovali na dôveryhodnosť jednotlivých online spravodajských médií, kde medzi najviac dôveryhodné online média patria Aktuality a Denník N, ktorým dôveruje viac ako 65% respondentov. Za najmenej dôveryhodné médiá sa považujú Refresher (15,3%), Nový čas (23,5%) a Startitup (29,6%). Cieľom tejto práce bolo na základe predvýskumu overiť dôležitosť vzťahov s médiami a sociálnych sietí v čase krízovej komunikácie. Na základe vykonaného predvýskumu môžeme konštatovať, že sociálne siete a online média sú vyhľadávaným zdrojom informácií v čase krízy a tým pádom odporúčame Firmám ich využitie v krízovej komunikácii. Až 51,1% respondentov vyhľadáva prvotne informácie na sociálnych sieťach spravodajských médií, čo potvrdzuje ich dôležitosť v komunikačnom mixe. Na tento výskum nadviažeme ďalším výskumom, ktorý rozšíri vzorku a pokryje širšie spektrum otázok.

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Development of selected indicators focused on rural tourism in Slovak Republic

Martin Schmidt¹

Abstract

The aim of this paper is to identify the upcoming development of the number of tourists, overnight stays, and beds in accommodation facilities in Slovakia, as well as in rural tourism zones. Furthermore, we have compared the percentual increase of all studied indicators between 2019 – 2025. The forecast function was used to identify potential increases. Among all studied indicators, we can state, that the highest potential increase can be expected in the number of tourists in the rural tourism zones until 2025. This increase can be expected at the level of 22 %. In the other two researched indicators focusing on rural tourism zones, we can also expect a positive increase until 2025 (20 % and 6 % increase). To ensure this positive development in rural tourism zones, we recommend focusing more on rural tourism development and deepening the relationship between universities and institutions ensuring tourism development in Slovak regions.

Key words

rural tourism, statistics, prediction analysis

JEL Classification: Z32

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Introduction

Human needs have different specific characteristics which are reflected in specific requirements related to travel. This is the main factor according to which we can distinguish different forms of tourism. In addition to spa tourism, recreational tourism, and others, we can also include rural tourism, agricultural tourism, as well as ecotourism among the supporting forms of tourism (Novacká et al., 2014). Each form of tourism responds to the needs of its participants. Therefore, it is expected that new trends will stimulate the emergence of new forms of tourism in the future (Ryglová et al., 2011). Loredana et al. (2021) rather draw attention to 'alternative' forms of tourism. The whole concept of alternative forms of tourism is based on the perception of the problems posed by mass tourism. Voluntourism is also coming to the fore, as it is becoming increasingly popular among the younger segment of the clientele. It is now a significantly growing segment of alternative tourism due to its sustainable form and positive impacts also on rural tourism destinations.

Rural tourism can be defined as "*a set of activities aimed at satisfying the needs associated with people traveling and staying in a rural environment in their leisure time*". Rural tourism and agro-tourism can also be classified as one of the most important tourism product groups (Kerekes et al., 2017). A significant majority of countries in the UNWTO survey indicated that they share the definition of rural tourism as a type of tourism activity in which the visitor's experience is linked to a wide range of products related to natural activities, agriculture, lifestyles, as well as rural culture (UNWTO, 2023). However, according to Shayne

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and Finer (2023), although a large share of tourism takes place in rural areas, not all activities are considered rural tourism. Shayne and Finer include agro-tourism, farm stays, and other country-specific experiences involving physical activities linked to nature under rural tourism. They are characterized by their small scale and involve a large number of small private enterprises.

Jarábková et al. (2021) add that the space in which rural tourism activities take place is particularly important for the definition of tourism itself. This form of tourism has a strong positive impact on the development of the local environment and the communities living within the region, based on several researches. Therefore, support for the development of rural tourism should be directed primarily to regions that have the prerequisites for the development of this form of tourism (Melichová and Majstříková, 2017).

Augustin et al. (2022) believe that to increase the number of tourists in the rural environment, it is necessary to create a comprehensive range of products. They recommend focusing on creating products within ecotourism, nature tourism, and adrenaline attraction. Moric (2013) and Micháľková and Gáll (2021) agree that the creation of tourism clusters in individual regions can ensure their competitiveness as well as support product creation at the regional level.

According to a study conducted by Wanner et al. (2021), we can argue that financial aspects may not be a decisive factor in the development of farm tourism. On the contrary, it is essential to focus on the active involvement of stakeholders in participatory planning processes, thus we can achieve a sustainable form of rural development (Wanner et al., 2021). This approach has the potential to provide numerous benefits to local communities, such as diversifying the income of agricultural enterprises, creating job opportunities, and preserving services in rural areas. By doing so, it can help prevent the depopulation of rural regions. (Shayn and Finer, 2023).

Based on data from the Statistical Office of the Slovak Republic from 2017 to 2019, we can conclude that increasing numbers of visitors to the Slovak countryside have been recorded. This upward trend peaked in 2019 at almost 220,000 tourists. During the Covid-19 pandemic, the number of tourists in the countryside dropped significantly, reaching a level of 180,000 tourists in 2022 (SRS, 2022).

1 Methodology

The main objective of the paper is to identify the rate of development of rural tourism in Slovakia and whether this rate is higher or lower compared to the rate of development of overall tourism indicators for the Slovak Republic. In order to achieve the desired outcomes, we have set three partial objectives. These partial objectives are:

- to examine the development of selected tourism indicators for the Slovak Republic;
- to evaluate the development of selected tourism indicators focusing on rural tourism in Slovakia; and
- to compare the development of the individual indicators for the two study areas.

We have set partial objectives in order to logically progress the research activities and to fulfill the main objective of the paper. Within this paper, we will take a closer look at

indicators such as the number of visitors, the number of overnight stays, and the number of beds in accommodation establishments. These indicators will be based on databases that focus on rural tourism zones as well as overall indicators for the Slovak Republic.

Tab. 1 Selected indicators with data for the whole Slovakia, 2017-2023

Rural tourism zones	2017	2018	2019	2020	2021	2022	2023
Number of visitors	151357	170576	219377	126697	130263	180406	210835
Number of overnight stays	359632	392117	524969	314164	364194	430398	510631
Number of accommodation facilities	272	399	427	416	443	456	488
Number of beds	7925	10249	11289	11020	11139	11103	11722

Source: Statistical Office of the Slovak Republic

Tab. 2 Selected indicators with data for the whole Slovakia, 2017-2023

Total numbers for the Slovak Republik	2017	2018	2019	2020	2021	2022	2023
Number of visitors	5375475	5596407	6432934	3210007	2724587	4831628	5726279
Number of overnight stays	14936766	15515083	17703695	9790597	8169505	12719545	14851364
Number of accommodation facilities	3495	4007	4487	4309	4550	4679	4926
Number of beds	160881	170735	186221	181588	184938	185352	188999

Source: DATACUBE, 2024

As the main source of information, we used the data provided by the Statistical Office of the Slovak Republic, which shows four indicators within the rural tourism zones in Slovakia. These data are recorded from 2017 to 2023. We used the same range for the data for the whole of Slovakia. We obtained the data for the whole of Slovakia from DATACUBE, where we focused on the same indicators that are available for rural tourism zones. In this paper, we will focus on three out of the four monitored indicators.

As the main research method, we chose the method of prediction models, through which we analyzed statistical data for the period 2020-2023. In the framework of this paper, we used the prediction function, which allows us to predict future values based on data from previous periods. The predictions produced through this method provide a realistic view of the development of the studied indicators. As a tool for processing the prediction function, we used Excel, which processed the datasets that were inserted. The prediction is based on a period of four consecutive years: 2020, 2021, 2022 and 2023. We applied the prediction

function to obtain data for the years 2024 and 2025. We then plotted the existing data (from 2017 to 2023) and the data revealed by the prediction function in graphs to ensure clarity of the data. In this predictive model, we excluded the years 2017–2019, as including these data would significantly distort the results of the predictive function, given that this period precedes the Covid-19 pandemic.

In the second part, we focused on comparing the percentage increase in each indicator. We decided to compare the year 2025 with the year 2019, which has been the most successful year so far in the tourism sector, as shown by the data presented in the individual graphs. We then compared the percentage increases for each indicator between the study areas. The findings from this subchapter are presented in Table 3.

2 Results and discussion

The results of the paper are divided into two main parts. The first section focuses on the prediction analysis of selected indicators reported at the national level. In the second section, we compared the percentage increase in each indicator between the two study areas.

2.1 Development of Indicators up to 2025

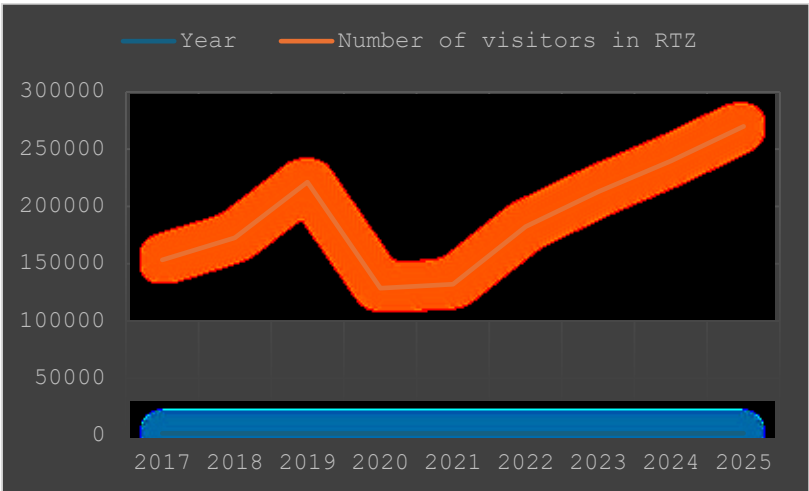
In this paper, we have decided to take a closer look at three tourism indicators, namely the number of visitors, the number of overnight stays, and the number of beds in accommodation establishments. By examining these indicators, we can identify the current state of tourism development in Slovakia as well as predict its potential growth.

In 2020, the world was hit by the Covid-19 pandemic, which also significantly affected the Slovak economy. Tourism was among the most affected sectors of the economy. The impact of the pandemic is also reflected in the following graphs. A significant decline was observed in the case of two examined indicators. For the last examined indicator, the decline during the pandemic was only moderate.

In the following graphs, we present the evolution of the individual indicators focusing on the two areas studied. Three graphs focus on the numbers of visitors, overnight stays and beds in rural tourism zones and the other three graphs focus on the total numbers of visitors, overnight stays and beds in the Slovak Republic. The time series is divided into two parts. For the time period from 2017 to 2023, we have worked with already existing data from the Statistical Office of the Slovak Republic. To identify the values for the years 2024 and 2025, we used the prediction function, which allows us to predict a certain increase or decrease in the indicators under study.

Graph 1 shows the development of the number of visitors in rural tourism zones in Slovakia over a period of nine years. Between 2017 and 2023, we identify 2019 as the most significant year in terms of the number of visitors in rural tourism zones. The number of visitors in this year was 219 377 and has not yet been surpassed, as in 2023 we registered 210 835 visitors. However, the two-year forecast for 2024 and 2025 shows that in 2024 the number of tourists in rural tourism zones should surpass the most successful year so far, 2019.

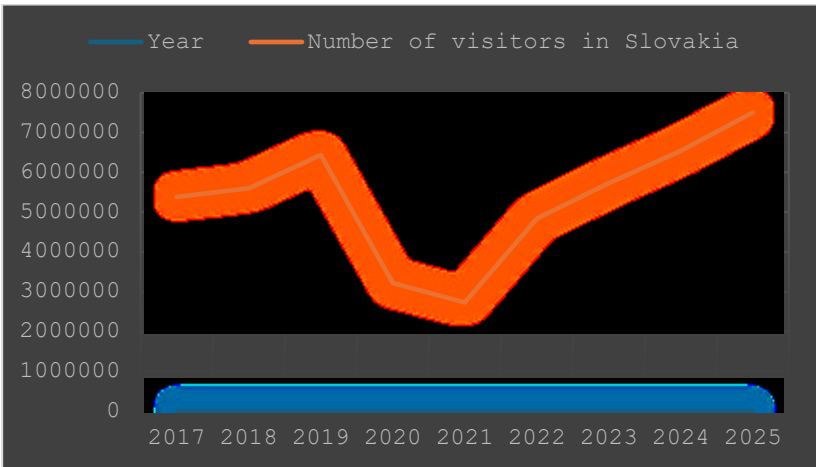
Graph 1 Development of the number of visitors in rural tourism zones in Slovakia for the years 2017 - 2025



Source: own processing

Based on the prediction function, we can say that the number of tourists in these zones could increase up to 237,690 tourists per year. The prediction also shows that 2025 should also be a record year, surpassing 2024.

Graph 2 Development of the number of visitors in Slovakia for the years 2017 - 2025

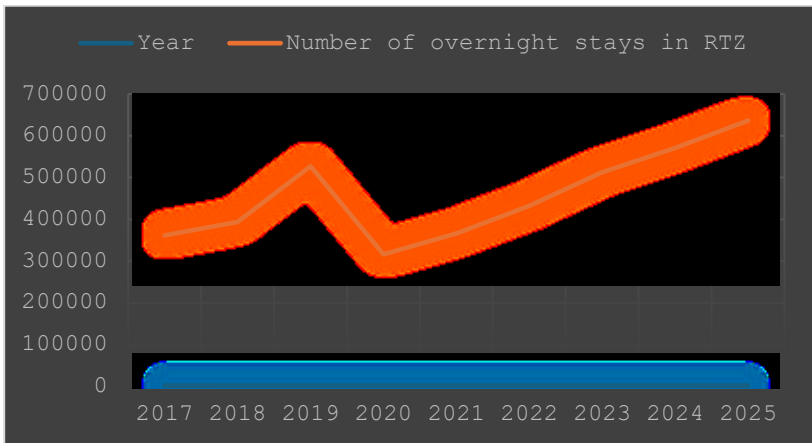


Source: own processing

Graph number 2 represents data focused on the total number of visitors in Slovakia. As in the previous graph, Graph 2 shows a significant drop in the number of visitors in Slovakia during the Covid-19 pandemic. For this indicator, 2019 was again the most significant year. In this year, 6 432 934 tourists visited Slovakia. Despite the fact that the numbers for this indicator have been steadily rising since 2021, even in 2023 Slovakia did not receive

a higher number of tourists as in 2019. However, 2024 is predicted to be a breakthrough year and the number of tourists should slightly surpass the data from 2019. Thus, we can assume that in 2024 Slovakia should be visited by 6 537 090 visitors. In 2025, the number of visitors should even surpass the 7 million visitors.

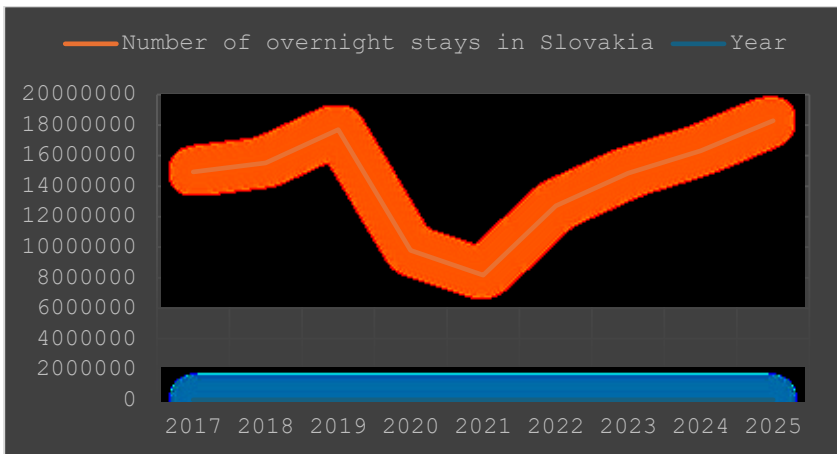
Graph 3 Development of the number of overnight stays in rural tourism zones in Slovakia for the years 2017 - 2025



Source: own processing

Graph 3 shows the development of the number of overnight stays in rural tourism zones in Slovakia for the years 2017 - 2025. A significant drop was observed during the pandemic period when the number of overnight stays in rural tourism zones fell to 314,164, which is a significant drop compared to the 2019 figures (524,969). However, in 2024, the figures should return to 2019 levels and even slightly surpass this year (568,748). In 2025, the number of overnight stays should rise again and hover around 630,000.

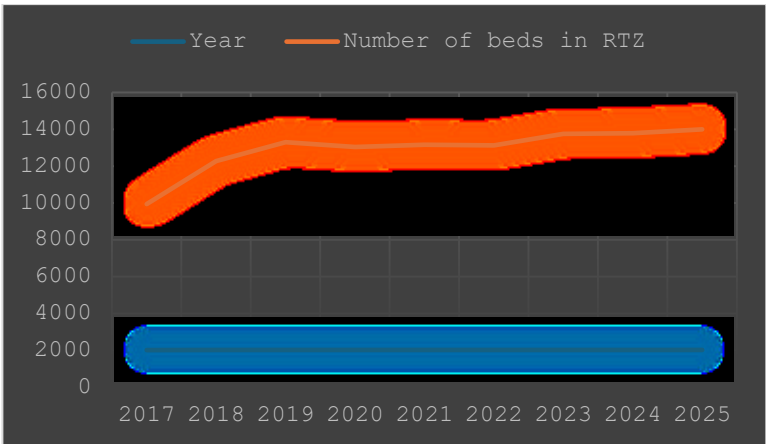
Graph 4 Development of the number of overnight stays in Slovakia for the years 2017 - 2025



Source: own processing

Graph 4 shows data on the number of overnight stays in Slovakia for the years 2017 - 2025. The most successful year so far for this indicator was 2019, when the number of overnight stays in Slovakia reached 18 million. The predictive analysis for 2024 and 2025 shows that this threshold should not be surpassed even in 2024. Only 2025 should be a breakthrough year in this respect. In this year, the number of overnight stays in Slovakia should surpass the 18 million overnight stays.

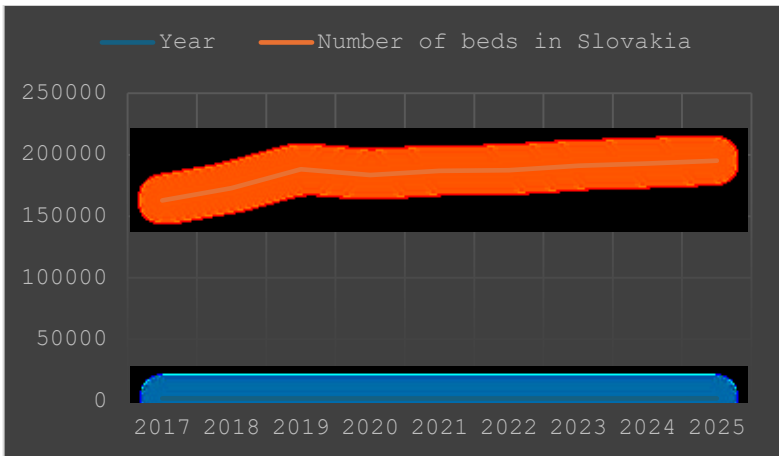
Graph 5 Development of the number of beds in rural tourism zones in Slovakia for the years 2017 - 2025



Source: own processing

The graph presents the development of the number of beds in rural tourism zones in Slovakia for the years 2017 - 2025. In the case of graph number 5 we see a more moderate rate of development of this indicator.

Graph 6 Development of the number of beds in accommodation facilities in Slovakia for the years 2017 - 2025



Source: own processing

The graph shows that the number of beds within the defined zones grew significantly from 2017 to 2019. After 2019, however, we see a slight drop in the number of beds and subsequent stagnation. Only from 2023 onwards we register a slight increase in the number of beds in the rural tourism zones. Based on a predictive analysis, we expect this number to rise to 11,971 beds in 2025.

The last graph shows the development of the number of beds in accommodation establishments in Slovakia for the years 2017 - 2025. We can see that the development is very similar to the development of the same indicator for rural tourism zones. In 2020, we see a slight drop, but from 2021 onwards we only register increasing values. Based on the prediction function, we forecast the number of beds in Slovakia in 2025 at 193 146 beds.

2.2 Percentage comparison of indicator growth

In the second subchapter, we compared the percentage increase in each indicator between 2019 and 2025. Table 3 shows three indicators: the number of visitors, the number of overnight stays and the number of beds in accommodation establishments, based on data focused on rural tourism zones as well as on the overall figures for the Slovak Republic.

Tab. 3 Percentage comparison of the increase in indicators between 2019-2025

Indicator	Rural tourism zones	Total numbers for the Slovak Republik
Number of visitors	22%	17%
Number of overnight stays	20%	3%
Number of beds	6%	4%

Source: own processing

Comparing the number of visitors, we can see that by 2025 we can expect a 22% increase in rural tourism zones compared to 2019, the most successful year so far. This expected increase is 5 percentage points higher than the data for the whole Slovak Republic. We also see a significant difference between the growth rate of the total number of overnight stays in Slovakia and in rural tourism zones. The difference between these indicators could be as high as 17% over the period under review. The predictive analysis shows that we can expect an increase of up to 20% in the number of overnight stays in rural tourism zones compared to 2019. For the last indicator, we can conclude that the rate of development is similar in both areas. In rural tourism zones, we predict that the number of beds in accommodation establishments will increase by 6% in 2025 compared to 2019. In the case of the total number of beds in accommodation establishments in Slovakia, the increase should be smaller, at the level of 4%.

The prediction models as well as the comparison of individual indicators show a positive trend, which should be reflected in the actual data for 2024 and 2025 in the future. The prediction of the data focused on rural tourism zones confirmed a positive growth trend in all the indicators examined. It is therefore essential to take an effective approach to the development of this form of tourism and to adopt the measures resulting from the analyses of this area. We recommend strengthening the cooperation between universities and the

Ministry of Tourism and Sport of the Slovak Republic, which is responsible for the development of all forms of tourism. We recommend that the information obtained in this research should be reflected in strategic documents, with increased attention given to this form of tourism during the decision-making process, as it holds significant potential for development in Slovakia. In order to ensure a holistic approach to rural tourism, it is also essential to foster its development not only at the local and regional levels but also at the national and international levels. All these steps can help to confirm the predicted data from the prediction models for all the indicators under study over the next two years.

Conclusion

This article provides an in-depth analysis of the development of three key tourism indicators: number of visitors, number of overnight stays, and number of beds in accommodation establishments. These indicators focused not only on the total numbers within the Slovak Republic but also on rural tourism zones. Based on the results from the prediction function for 2024 and 2025, we conclude that, by 2024, all five indicators should surpass the 2019 values. However, in the case of the total number of overnight stays in the Slovak Republic, 2019 levels are expected to be surpassed only in 2025, exceeding the 18 million overnight stays threshold. In any case, we can conclude that a positive development is expected for all the examined indicators.

In this article, we have highlighted the growing importance of rural tourism in Slovakia. This is demonstrated through a comparison of three tourism indicators, focusing on both the overall figures for the Slovak Republic and those for rural tourism zones. The comparison reveals that, between 2019 and 2025, we can expect a greater increase in the examined indicators in rural tourism zones compared to the overall indicators for the Slovak Republic. The most significant difference in development is expected in the number of overnight stays. In rural tourism zones, we expect an increase of up to 20% in overnight stays between 2019 and 2025. However, for the total number of overnight stays in the Slovak Republic, we expect a less significant rise, only a 3% increase by 2025 compared to 2019.

In future research, it would be beneficial to focus on year-on-year percentage changes in the indicators, as this would offer a more detailed understanding of their development rates. Moreover, if databases with longer time periods are available, we recommend using prediction analysis to forecast trends over four or more years. This would provide valuable insights for shaping the development of rural tourism in strategic documents and management practices.

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Development of employment in cultural tourism in the V4 countries

Lucia Uderianová¹

Abstract

This article evaluates employment trends in the cultural tourism sector across the V4 countries (Czech Republic, Hungary, Poland, Slovakia) from 2014 to 2023, focusing on age group differences. The aim of the article is to assess the development of employment in the cultural tourism sector in these countries, with an emphasis on differences across age categories. The findings indicate that the cultural tourism sector relies heavily on younger age groups (15–29 and 30–39 years), which, however, show higher employment fluctuations, particularly during pandemic periods. Older age groups (40–49 and 50–59 years) demonstrated greater stability and resilience to crises. In Poland and Hungary, employment was highest in 2018 and 2023, while in the Czech Republic and Slovakia, post-pandemic recovery was slower. These findings highlight the diverse employment dynamics within the V4 region's cultural tourism sector.

Key words

cultural tourism, employment trends, age groups, sustainable development, V4 countries

JEL Classification: Z32, J21

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Introduction

Cultural tourism started to develop in Western Europe in the 1980s, but in the post-socialist countries of Central and Eastern Europe this trend only started to manifest itself after 1990 (Light & Dumbraveanu-Andone, 1997). Political changes in these regions facilitated border crossings, making post-Soviet cultures that were previously less well-known attractive to tourists (Hughes & Allen, 2005).

Cities in Central and Eastern Europe, such as Budapest, Prague, and Krakow, offer visitors unique and affordable cultural experiences that showcase architectural, archaeological, and artistic values (Smith, 2007).

Today, cultural tourism plays a vital role in strengthening local economies while promoting heritage conservation. As stated by Richards (2018), cultural tourism serves not only to attract tourists but also to strengthen the identity of the local community and raise awareness of the importance of heritage conservation. Richards highlights that cultural experiences motivate travellers to gain a deeper understanding of a destination, leading to longer-term and sustainable development.

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According to Borovsky et al. (2008), cultural tourism includes urban tourism and visits to historical and cultural sites around the world, including UNESCO-listed sites. It also includes tourism to rural areas with folk festivals and traditional arts, as well as culinary experiences associated with tasting local food and wines. Gúčik (2006) defined cultural tourism as a way of meeting the spiritual needs of people who want to learn about cultural heritage, customs of local people and engage in entertainment and social activities, including visits to galleries, cultural sites and various events.

Gúčik points out that cultural tourism contributes to increasing the professional, social and cultural knowledge of individuals. It is therefore often combined with other forms of tourism, such as spa, health, recreational or congress tourism. It also includes religious and pilgrimage tourism, which draws on the traditions of various world religions. According to Kopša et al. (1992), this type of tourism satisfies people's spiritual needs through visits to festivals, cultural sites, exhibitions and various events.

Novacká (In: Michalová et al., 1999) describes cultural and cognitive tourism, which contributes to increasing the social and educational level of individuals. This type of tourism focuses on the discovery of cultural, historical, artistic and social monuments and values created by mankind throughout history. The author includes here, for example, visits to architectural monuments of secular and sacred architecture, works of art by well-known authors, cultural facilities, natural beauties and important social events.

Cultural tourism serves as a tool to educate individuals about national awareness and respect for history, monuments and traditions. Its development is based on the existence of cultural heritage, which includes tangible and intangible elements (Novacká et al. 2010).

From a demand perspective, cultural tourism can be defined as the motivation of participants to temporarily leave their permanent residences with the intention of getting to know the material and non-material elements of the destination place associated with an experience or gaining information (Steinecke, 2007).

Cultural tourism plays a key role in the global tourism sector, contributing to the preservation of cultural heritage and boosting economic activity at both local and national levels. According to the UNWTO's 2018 Tourism and Culture Synergies report, cultural tourism is considered one of the most dynamic areas within the tourism industry. It takes into account the interaction and exploration of different aspects of culture, such as history, art, local traditions and festivals. The report also highlights that tourists' growing interest in cultural experiences is linked to their desire for authentic and enriching experiences, leading to greater involvement of local communities in the provision of tourism services. This not only increases their economic activity, but also reinforces the so-called sense of pride and identity of the destination within local cultures.

Cultural tourism has significant economic benefits for the V4 countries, with employment in the sector growing steadily. Projects supported by the Visegrad Fund, such as Tourism for All, emphasise the importance of making cultural sites accessible to a wider audience, including people with disabilities, thereby strengthening the inclusiveness and sustainability of tourism in the region (Visegrad Fund, 2022). In addition, the European Commission points out that employment in cultural industries is steadily growing, with the most significant gains in creative and cultural occupations, showing that cultural tourism plays an important role in strengthening the regional economy (Eurostat, 2023).

1 Methodology

The aim of the article is to assess the development of employment in the cultural tourism sector in the V4 countries between 2014 and 2023, with an emphasis on the differences between age categories. To achieve the goal, we used several scientific methods, in addition to the methods of analysis and synthesis, induction and deduction, we used quantitative methods in the collection and subsequent analysis of numerical data, which include mathematical-statistical methods.

We can analyse the relative changes in the evolution of employment numbers by several time series characteristics. One way of tracking relative changes compared to a base year, which we consider as a basis for comparison, is the base year index.

$$\text{Base index } B_t = \frac{y_t}{y_0}, t = 2, 3, \dots, T \quad (1)$$

We track gradual changes in development using chain indices or growth rates. The growth rate, also known as the chain index, expresses the number of times the value of the monitored indicator has increased or decreased compared to the previous year.

$$\text{Growth coefficient } k_t = \frac{y_t}{y_{t-1}}, t = 2, 3, \dots, T \quad (2)$$

The growth rate is a percentage of the growth coefficient.

$$\text{Growth rate } T_t = k_t \cdot 100, t = 2, 3, \dots, T \quad (3)$$

For the purpose of clear representation of the obtained results in the form of tables and graphs we used graphical methods.

2 Results and Discussion

The chapter presents the achieved results of the analysis of the development of employment in cultural tourism in the V4 countries, which were processed on the basis of data obtained from the Eurostat database. In the analysis, changes in employment in the cultural sector in different age categories from 2014 to 2023 were monitored. The results are presented using base and chain indices.

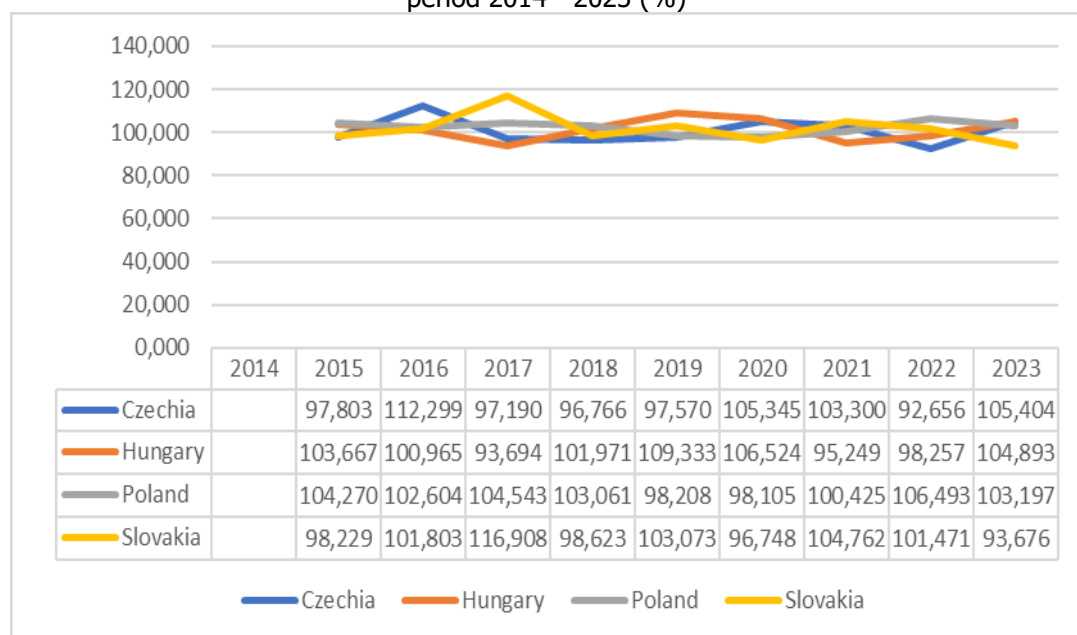
2.1 Employment trends in the V4 countries

Examining the evolution of employment allows us to combine several methods. We track year-on-year relative changes in development using a chain index, or growth rate, which expresses the number of times the value of the indicator under consideration has changed compared to the previous period.

In the first graph we track the relative change in employment of enterprises operating in the cultural tourism market in the V4 countries in the period 2014-2023. The growth rate as a percentage of the growth coefficient expresses the speed and dynamics of the relative change of the analysed indicator in relation to the previous period or year.

The growth rate of employment in cultural tourism in the V4 countries between 2014 and 2023 showed significant differences. There were various significant year-on-year changes in the chain index across countries over the 2014-2023 period. In the Czech Republic, there was a decrease of -7.36% in 2022 compared to 2021, which was the most significant decrease in the period under review, but the index increased again by +5.40% in 2023. In Hungary, there was a significant increase of +9.33% in 2019 compared to 2018, which was the highest year-on-year increase, but there was a decrease of -4.75% in 2021 compared to 2020. However, after this decline, the index increased by +4.89% in 2023. In Poland, the largest increase was recorded in 2022, when the chained index increased by +6.49% compared to 2021, although there was a decrease of -1.79% in 2019. In Slovakia, the largest increase took place in 2017, when the index increased by +16.90% compared to 2016, which was the strongest growth over the entire period. However, in 2023 there was a decline of -6.33% compared to 2022, which was the largest deterioration in recent years.

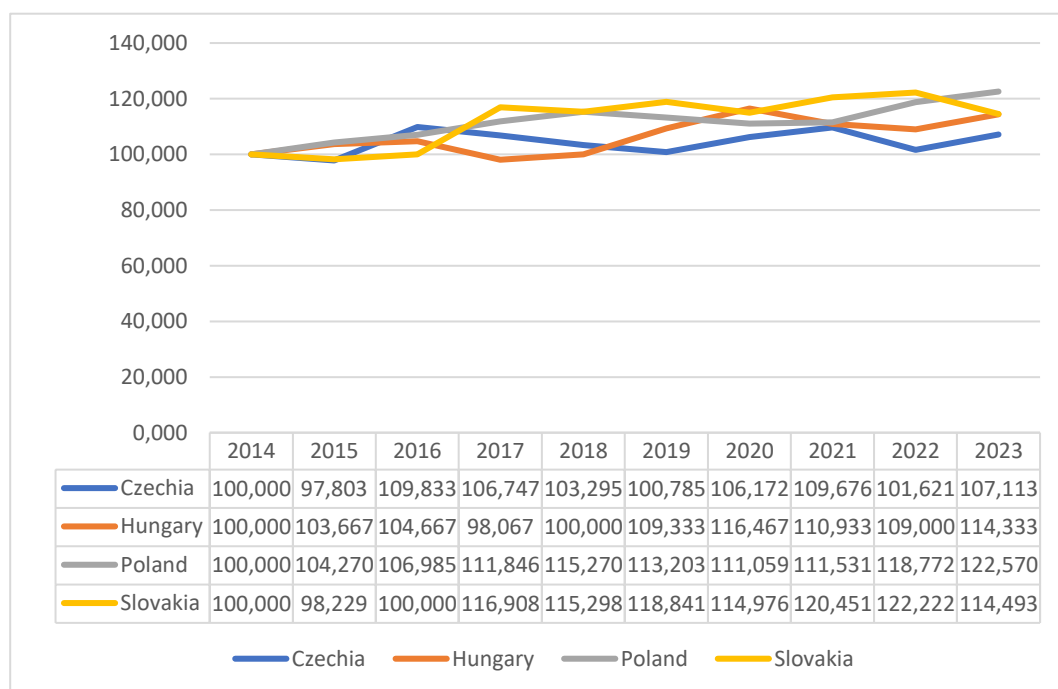
Figure 1 Growth rate of total employment in cultural tourism in the V4 countries in the period 2014 - 2023 (%)



Source: Own processing based on Eurostat, 2024

Figure 2 shows the evolution of employment in the sector, using a base index for all age categories in the V4 countries, with 2014 as the base year. In 2018, the most significant increase in employment was recorded in Poland with 15.27% compared to 2014. In Hungary, the increase was similarly positive (14.33%). After this year, some countries experienced a decline, most notably the Czech Republic and Slovakia in 2020 and 2021. In 2022 and 2023, employment stabilised, even exceeding 2014 levels in Poland and Hungary, while the Czech Republic and Slovakia showed less favourable results. Slovakia recorded an increase of 14.49% compared to 2014, but with a declining trend in recent years.

Figure 2 Development of total employment in cultural tourism enterprises in the V4 countries from 2014 to 2023 (% , 2014 = 100%)

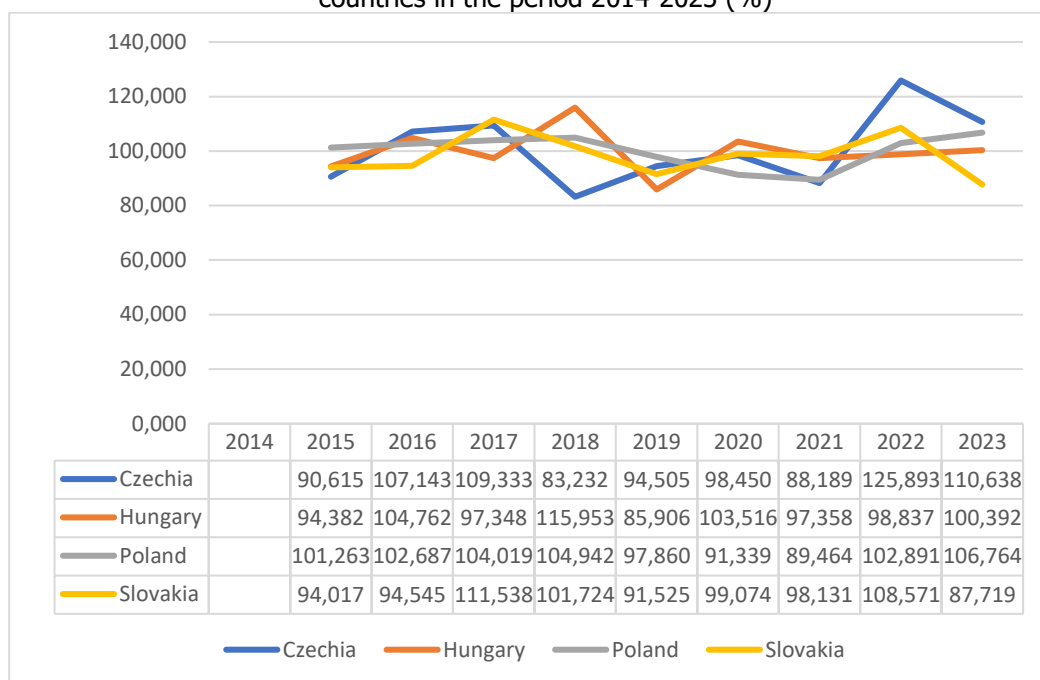


Source: Own processing based on Eurostat, 2024

Figure 3 analyses the year-on-year growth rate of employment in the 15-29 age category. The employment growth rate showed significant fluctuations between 2014 and 2023. In the Czech Republic, the most pronounced decline was recorded in 2018, when youth employment fell by -16.77% compared to the previous year. However, this decline was subsequently offset in 2022, when there was a strong increase of +25.89% compared to 2021, and continued in 2023 with an increase of +10.64%. In Poland, the largest increases were recorded in 2017 and 2018, when youth employment in cultural tourism increased by +4.02% and +4.94% respectively. Conversely, the most significant decline came in 2020 and 2021, when employment fell by -8.66% and -10.54% respectively. However, there was a significant rebound in 2023 when employment grew by +6.76%. In Slovakia, the largest increase was recorded in 2017, when employment grew by +11.5% compared to 2016. However, there was a decline in the following years, with employment falling by -12.3% in 2023 compared to 2022. These trends indicate a high sensitivity of young workers to external factors such as economic conditions and pandemics.

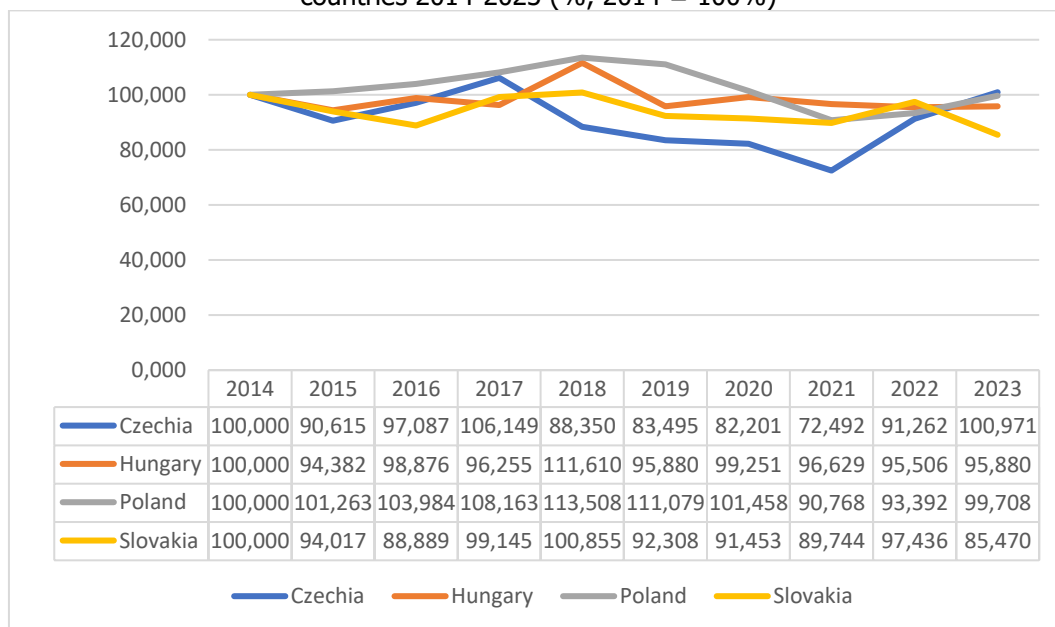
Figure 4 shows the evolution of employment in the 15-29 age group based on the base index with 2014 as reference (100%). In 2018, employment in Poland and Hungary grew by 13.5% and 11.6% respectively, indicating a significant development of job opportunities for young people. In contrast, there is a sharp decline in 2020 and 2021: in the Czech Republic by 17.8% in 2020 and 27.51% in 2021. In Slovakia, by 8.45% in 2020 and 10.26% in 2021. This negative trend reflects the economic impact of the pandemic. In 2022 and 2023, employment increased slightly, reaching 95.8% in Hungary, while in Slovakia it remained at 85.5% compared to 2014.

Figure 3 Growth rate of employment of 15-29 year olds in cultural tourism in the V4 countries in the period 2014-2023 (%)



Source: Own processing based on Eurostat, 2024

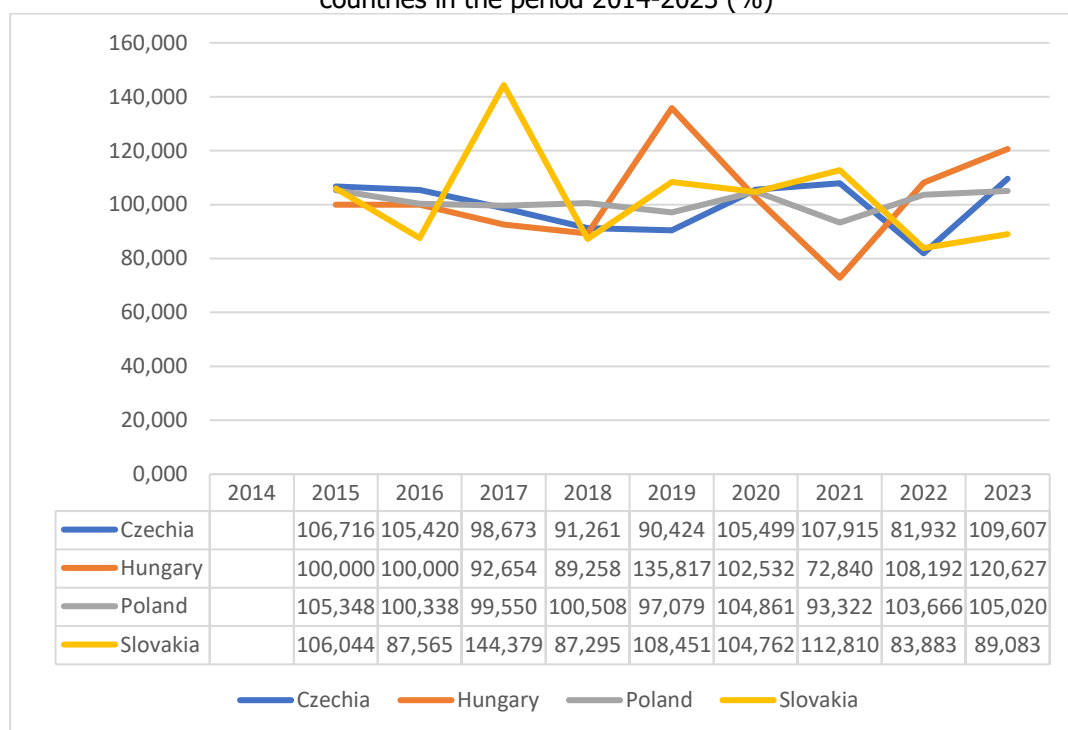
Figure 4 Employment of 15-29 year olds in cultural tourism enterprises in the V4 countries 2014-2023 (% , 2014 = 100%)



Source: Own processing based on Eurostat, 2024

The chain index shown in Figure 5 summarises the year-on-year changes in employment in the sector. In the 30-39 age group, employment in cultural tourism in the V4 countries was accompanied by the following year-on-year changes. In the Czech Republic, the most significant change was recorded in 2018, when employment decreased by -8.74% compared to 2017. After this decline, the situation started to stabilise, with an increase of +9.6% in 2023 compared to 2022. In Hungary, significant changes were observed in 2018, when employment decreased by -10.7% compared to 2017. In the following years, there was a recovery, with an increase of +20.63% in 2023 compared to 2022. In Poland, the most significant increase was recorded in 2015, when employment grew by +5.34% compared to 2014. In Slovakia, the most significant increase in employment was recorded in 2017, when employment grew by +44.37% compared to 2016. However, this growth was subsequently offset by a decline in 2018. a positive trend is recorded for 2019, 2020 and 2021 followed by a decline in 2022 and 2023 of -16.11% and -10.91% respectively compared to the previous year.

Figure 5 Growth rate of employment of 30-39 year olds in cultural tourism in the V4 countries in the period 2014-2023 (%)

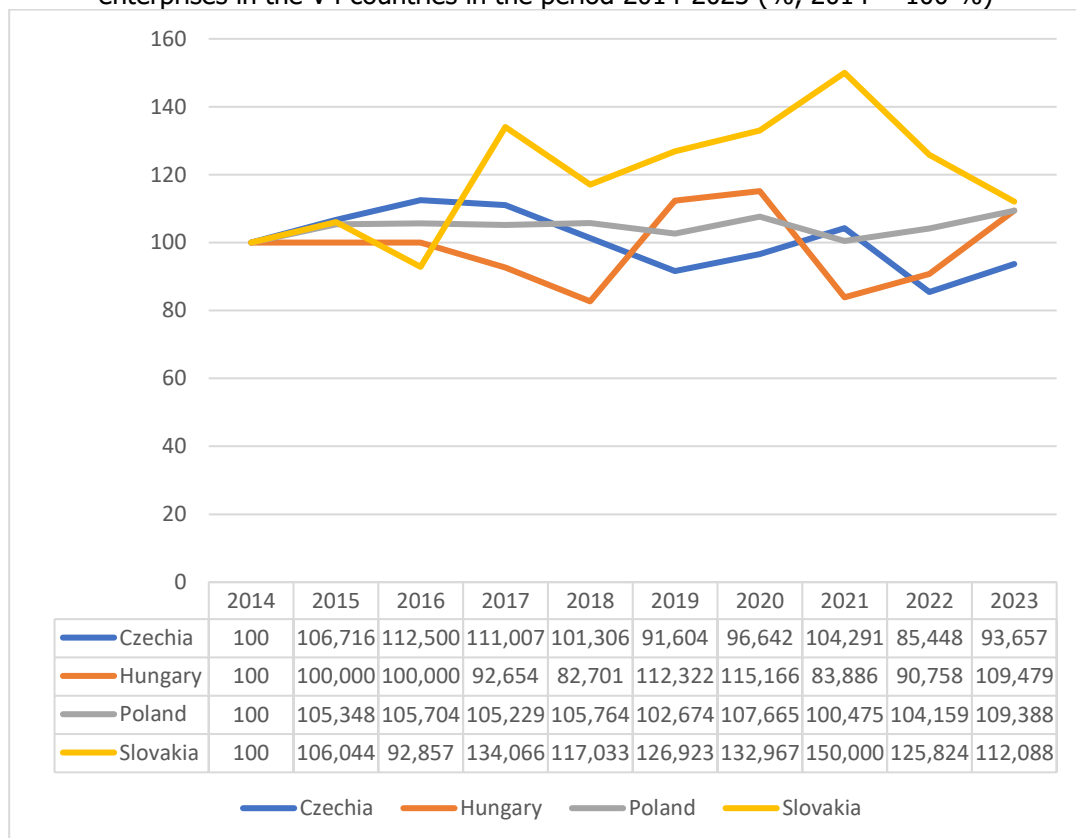


Source: Own processing based on Eurostat, 2024

The base index in Figure 6 shows the evolution of employment in the cultural sector for the age category 30-39 years, with 2014 as the reference year (value 100). In the Czech Republic, there is a decline in 2019 and 2020, with employment falling by 8.4% and 3.4% respectively compared to 2014. After a slight recovery in 2021, employment in 2022 and 2023 declined again by 14.6% and 6.3% respectively compared to the reference year. In Hungary, the trend was contrasting, with employment growing by 12.32% and 15.17% in 2018 and 2019, but falling by 16.11% in 2020 and 2021. By 2023, employment increased to a level only 9.48% higher than in the reference year. In Poland, the trend was more stable, with a slight increase in 2015 and 2016, with employment rising by 9.39% in 2023

compared to the reference year. In Slovakia, there was a significant increase between 2017 and 2019, with employment rising by 34.07% in 2017. In 2020 and 2021, employment remained at higher levels, but declined in 2022 and 2023, reaching a value only 12.09% higher than in 2014.

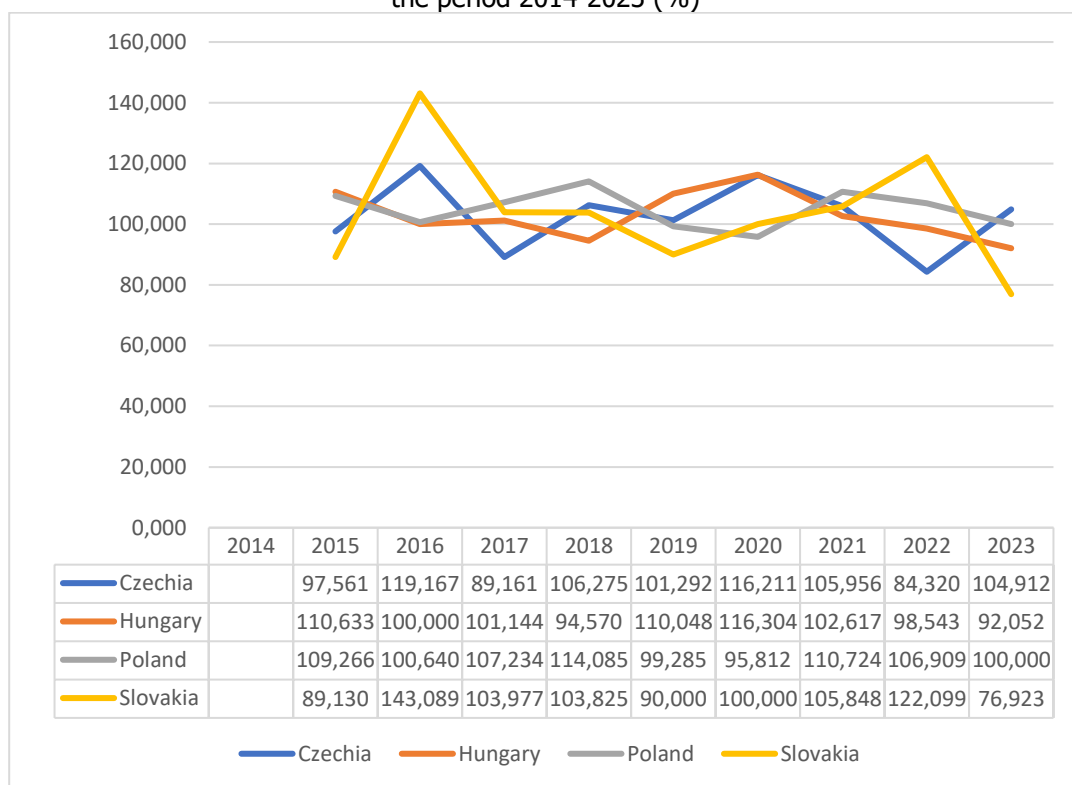
Figure 6 Development of employment of the age group 30-39 years in cultural tourism enterprises in the V4 countries in the period 2014-2023 (% , 2014 = 100 %)



Source: Own processing based on Eurostat, 2024

Figure 7 shows employment in the cultural sector in the V4 countries between 2014 and 2023 for the 40-49 age group. The most pronounced changes are observed in the Czech Republic and Slovakia, while Hungary and Poland showed more moderate fluctuations. In the Czech Republic, the largest increase in employment was recorded between 2016 and 2020, when it grew by +19.17% and +16.21% respectively. In 2023, there was a further increase of +4.9% compared to 2022. In Hungary, there was a significant increase in 2019 and 2020, when employment grew by +10.05% and +16.30% respectively. However, a decrease of -8.0% was recorded in 2023 compared to 2022. In Poland, the largest increase was recorded in 2015 and 2018, when it grew by +9.27% and +14.08% respectively. In 2023, the employment trend remained stable. In Slovakia, employment decreased by -10.87% in 2015, followed by an increase of +43.1% and +3.98% in 2016 and 2017. However, in 2023 there is a decrease of -23.1% compared to 2022.

Figure 7 Growth rate of employment aged 40-49 in cultural tourism in the V4 countries in the period 2014-2023 (%)

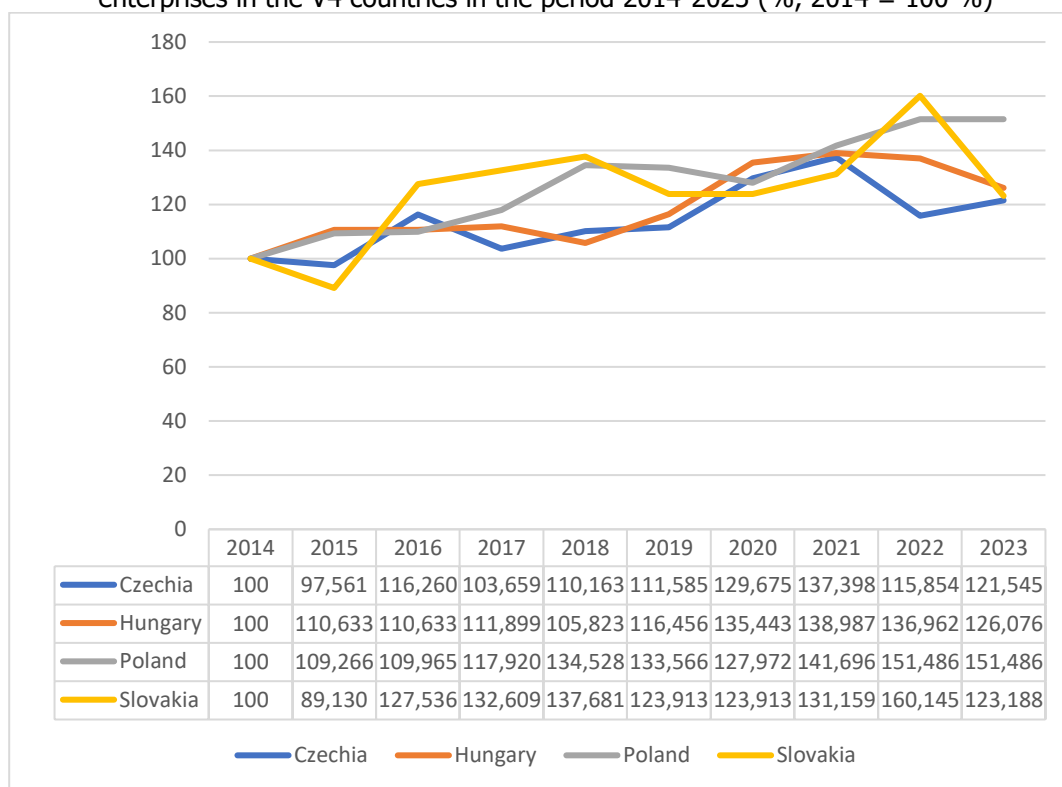


Source: Own processing based on Eurostat, 2024

The base index in Figure 8 shows the evolution of employment in the cultural sector for the 40-49 age group, with the reference year being 2014 (value 100). In the Czech Republic, there were increases in 2016, 2019, 2020 and 2021, with the highest increase in 2020, when employment grew by 29.68%. In 2022 and 2023, there was a decrease to values of 115.85% and 121.55% respectively, but this is still an increase from the base year of 15.85% and 21.55%. In Hungary, the development was stable with a continuous increase in employment, with the most significant increase registered in 2021 compared to 2014 by 38.99%. In Poland, the trend was relatively upward with an increase between 2017 and 2022, with the index reaching 151.49% in 2022, over 50% higher than in the base year. In Slovakia, the most significant increases were in 2018 and 2022. In 2022 employment increased by 60.15%, then in 2023 we are again talking about an increase of 23.18% compared to the reference year, but significantly lower than in the previous period.

The chained index in Figure 9 reveals the year-on-year changes in employment in the sector for the 50 to 59 age group. The Czech Republic saw employment decline by -8.27% in 2015 compared to 2014. In the following we register an increase of +11.65% compared to 2015, also in 2021 employment increased by +8.59% compared to 2020. In 2023 there is a slight decrease of -4.3% compared to 2022.

Figure 8 Development of employment of the age group 40-49 in cultural tourism enterprises in the V4 countries in the period 2014-2023 (% , 2014 = 100 %)

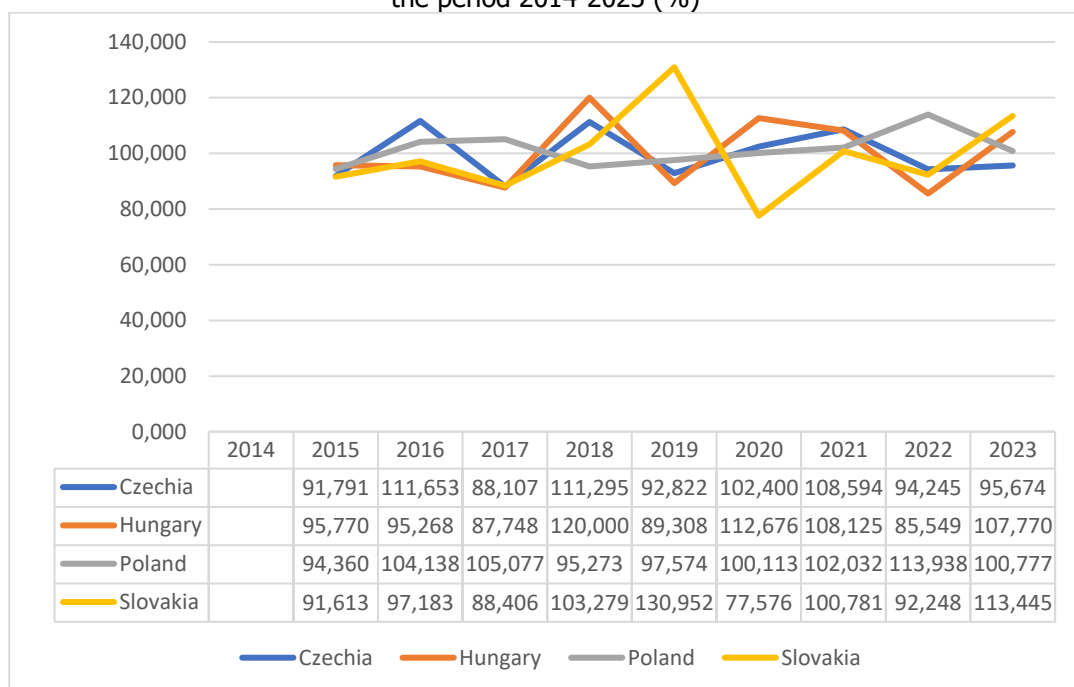


Source: Own processing based on Eurostat, 2024

Hungary showed the most significant decline in employment in 2017, when employment fell by -12.25% compared to 2016. In contrast, the most significant increase is registered in the following year 2018, when employment grew by +20%. The year 2022 signals a decline again and in 2023 there was an increase of +7.8% compared to 2022. Poland had the smallest fluctuations in employment over the years. The most significant increase occurred in 2022, when employment grew by +13.94% compared to 2021. This growth continued in 2023 with an increase of almost +0.8% compared to 2022. Slovakia showed a decline in employment in 2015 and 2016, when it fell by -8.4% and -2.8% compared to the previous years. There was an increase in 2019, when employment grew by +30.95% compared to 2018. Conversely, there was a significant decrease of -22.43% in 2020 compared to 2019. In 2023, there was an increase of +13.45% compared to 2022.

The base index in Figure 10 for the 50-59 age group shows how employment in the cultural sector is changing compared to 2014 (value 100). In the Czech Republic, employment increased in 2016 and 2021 compared to the base year, with the index value reaching 103.73 in 2021, an increase of 3.73%. Conversely, there were declines in 2015, 2017, 2019, 2020, 2022 and 2023.

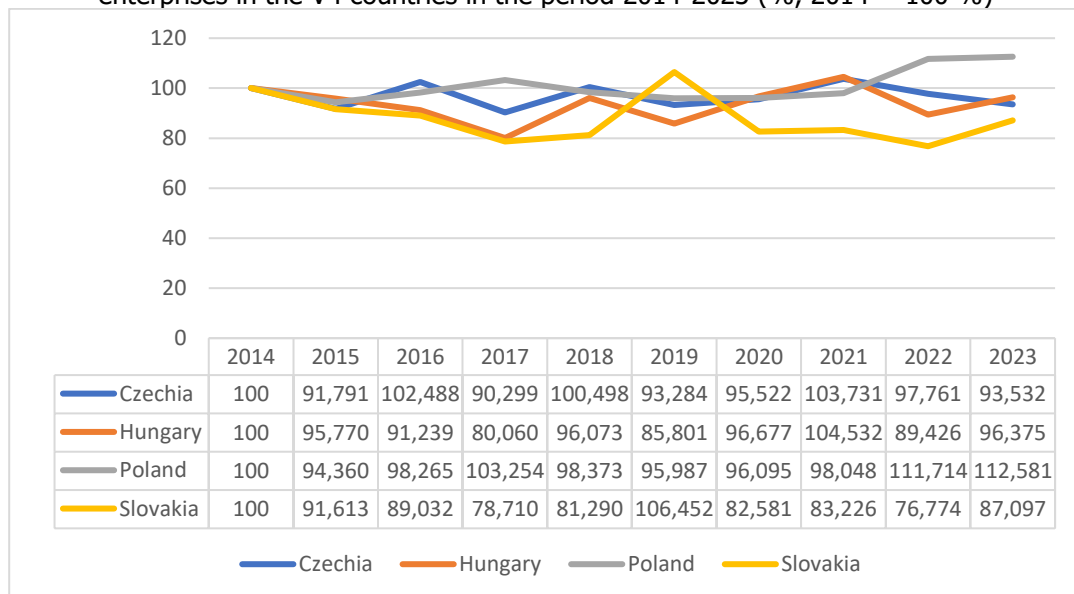
Figure 9 Growth rate of employment aged 50-59 in cultural tourism in the V4 countries in the period 2014-2023 (%)



Source: Own processing based on Eurostat, 2024

In Hungary, we register a downward trajectory compared to 2014 until 2020, with the most significant decrease in 2017 of almost up to 20% in this age category. In contrast, in 2021 the index value increases by 4.53% compared to 2014.

Figure 10 Development of employment of the 50-59 age group in cultural tourism enterprises in the V4 countries in the period 2014-2023 (% , 2014 = 100 %)



Source: Own processing based on Eurostat, 2024

In Poland, the development was stable with growth in 2017, 2022 and 2023, with the index value in 2023 reaching 12.58% higher than in 2014, this indicator is the only one among the countries under study that shows a positive outlook for the future for the age category under study. In Slovakia, we see an increase of 6.45% only in 2019, the other years monitored show a decrease in the value of the indicator compared to 2014.

Conclusion

The article has provided a comprehensive view of the development of employment in the cultural tourism sector in the V4 countries, with the main contribution being the identification of employment trends across different age categories. The research showed that the cultural tourism sector benefits significantly from the involvement of younger generations, especially the 15-29 and 30-39 age groups, while older age groups participate to a lesser extent. This trend may have a long-term impact on the stability and sustainability of the sector in the event of a shortage of young employees, which may be particularly important in the event of demographic changes in the future.

The generalisation of the results suggests that employment in the sector is subject to significant fluctuations caused by external factors such as the COVID-19 pandemic. The results provide practical information for employment policy decision-making and resource planning in cultural tourism, with a view to ensuring sustainable growth and the attractiveness of the sector to younger generations. This analysis of employment trends in the cultural tourism sector in the V4 countries reveals several trends and fluctuations. In the period 2014-2023 in the category of employment of persons aged 30-39 in cultural tourism in the V4 countries, the most significant changes occurred in Hungary, where employment increased by +35.81% in 2019, decreased by -27.16% in 2021 and then increased by +20.63% in 2023. Poland showed steady growth, especially between 2016 and 2018, with a slight decline in 2021 and continued with a slight increase of +5% in 2023. Slovakia experienced significant fluctuations, with a decline in 2016, a sharp increase in 2017 of +44.38%, but a decline of -12.92% in 2023.

The results obtained are important for the design of labour policies and resource management in cultural tourism, especially in the development of strategies that will support the sustainability of the sector during a period of demographic change. Further research should focus on the factors that keep employment in cultural tourism stable and on the possibilities of using digital technologies to strengthen employment and develop the sector in the context of future economic challenges.

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Strengthening brand awareness as a determinant of consumer loyalty¹

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Abstract

In today's competitive environment, brand awareness is a key determinant of consumer loyalty, as customers are more likely to make repeat purchases from a brand with which they identify emotionally and cognitively. This paper considers the assessment of various factors such as purchase experience, trust, brand authenticity, customer service, digital marketing tools and their impact on creating a positive brand perception. The results suggest that enhanced brand awareness leads to higher levels of customer loyalty behaviour, which has a direct impact on the long-term sustainability of the brand in the marketplace.

Key words

brand awareness, consumer loyalty, measuring customer loyalty

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Introduction

Standing out in the world of choice is not easy. Gaining consumer loyalty to a brand or store requires more than just offering a good product. Price, packaging, customer service, and reputation are just a few of the factors involved in the consumer's decision-making process. With consumers having more options than ever before, the weight of responsibility that marketers carry in creating relationships with consumers has never been greater. In response to consumer demands for greater transparency from brands and for brands to align with important social causes, marketers must not only make a meaningful brand promise, but deliver on it to attract consumers and increase loyalty.

1 Methodology

The aim of this paper was to examine the factors influencing customer loyalty with a view to enhance brand awareness. A combination of theoretical and practical scientific methods and procedures were used in its development. A literature search method was used to systematically search for scholarly publications and relevant information in order to obtain basic secondary data from domestic and international scholarly sources and reputable databases. We also directly reported metrics to measure consumer brand loyalty. In the practical part of the paper, we used secondary data from a survey conducted by Pricewaterhouse Coopers (PwC Customer Loyalty Survey 2022), which was conducted through an online quantitative questionnaire. The survey was conducted between May 5 and May 19, 2022

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among 4,036 consumers in the US. We then applied inference to generate statements from the general survey. The practical part was dominated by the induction method, which helped us draw general conclusions from the quantitative survey.

2 Results and Discussion

Brand awareness is the ability of a customer to recognise or recall a brand in different situations. This concept plays an important role in shaping consumer behaviour and is the basis for successful loyalty building. A strong brand with a high level of awareness can capture a customer's attention, influence their decision-making and create a long-term emotional relationship. According to Keller's (2013) brand building theory, brand awareness is the first step in the so-called customer decision ladder. A brand with high awareness has a competitive advantage because customers are more inclined to include it in their list of preferred options (Homburg et al., 2010). Awareness also influences customers' emotional connection to the brand, increasing the likelihood of customer loyalty.

An important aspect is the consistency of brand communication, which, according to Ismail (2017), reduces information barriers and strengthens customer trust. When a brand is able to regularly provide relevant information and interact with the audience in real time, it increases the likelihood of repeat purchases.

Innovation in customer experience also plays a significant role in building loyalty. According to a study by Rappa et al. (2013), superior customer experiences are a trigger for long-term relationships. Personalisation, accessibility and seamless brand interactions allow consumers to feel valued, which positively influences their loyalty.

Digital transformation has greatly influenced awareness-building strategies. According to research by Hollebeek et al. (2014), social media enables brands to build authentic relationships with audiences through regular communication, engagement and sharing of valuable content. Brands that use these platforms to create active communities typically experience higher levels of loyalty because consumers feel part of the brand identity (Erdoğan & Çiçek, 2012). Nowadays, brand awareness is also built through integrated communication that combines traditional media with digital channels (Dijkmans et al., 2015). Brands that are able to connect the offline and online world in a harmonious mix build a stronger market presence and reach their target groups more effectively.

2.1 Consumer loyalty

Consumer loyalty is defined as the long-term willingness of customers to repeatedly purchase a brand's products or services despite competing offers. Loyalty is essential for the sustained success of brands because loyal customers are less price sensitive, more likely to purchase, and often act as brand ambassadors (Han & Hyun, 2013).

Customer loyalty depends on a number of factors that have been intensively studied in recent years:

1. **Customer satisfaction:** Satisfaction is the key to loyalty. According to research by Chen and Wang (2016), satisfaction reduces the risk of customer churn and increases repeat purchases.

2. **Value for the customer:** Perceived Value Theory emphasizes that customers who perceive high value in products or services exhibit higher levels of loyalty (Khan et al., 2020).
3. **Emotional connection:** Loyalty is formed not only on the basis of rational factors, but also emotional ones. He et al. (2012) state that emotional attachment to a brand leads to a long-term relationship between the customer and the brand.
4. **Quality of service:** Quality customer experience plays a key role in fostering loyalty (Kim et al., 2013).

2.2 Behavioural and emotional aspects of loyalty

Consumer loyalty consists of two fundamental dimensions - behavioural and emotional - which are interconnected and play a key role in creating long-term relationships between customers and brands. Behavioural loyalty focuses on repeat purchases, with customers remaining loyal to a brand out of habit rather than an emotional connection. It involves specific customer actions such as repeat purchases, long-term use of services or preference for a brand over others. This type of loyalty is often influenced by factors such as product availability, price, and ease of access. Behavioural loyalty is therefore the result of rational decisions that do not necessarily reflect an emotional attachment to a brand. However, behavioral loyalty is often influenced by price promotions or competitive offers (Bolton et al., 2013). In contrast to behavioural loyalty, emotional loyalty is based on customers' deep relationship and identification with the brand. This type of loyalty arises through positive experiences, value congruence with the brand and emotional connection. Emotional loyalty is more stable and less influenced by external factors such as price or availability. It involves deep emotional connections and customer identification with the brand, leading to a long-term relationship and customer commitment to actively promote the brand among their friends and family (Gómez-Suárez et al., 2021).

2.3 Measuring consumer loyalty

Loyal customers represent a significant strategic asset for a brand, as their loyalty and willingness to purchase repeatedly creates a stable and predictable revenue stream. In addition, loyal customers often act as unpaid brand ambassadors, which means that they recommend the brand to their friends, thus bringing new customers to the brand at minimal cost. However, this type of customer is not always easy to identify or quantify. Measuring loyalty is therefore essential to understanding a brand's effectiveness in retaining customers over the long term. Based on the data collected through customer loyalty measurement methods, marketing activities can be effectively optimised to strengthen the brand-customer relationship. By analysing this data, you can identify the factors that most influence customer loyalty and focus on strengthening them. For example, loyalty programs can identify which rewards or incentives are more likely to trigger repeat purchases or positive emotional engagement (Peker, 2024).

For example, consumer loyalty is measured using:

Net Promoter Score (NPS)

The Net Promoter Score metric asks one fundamental question: How likely are you to recommend our products? Not only does this let you know how satisfied the customer is, but it also tests how likely they are to buy again - without pestering them with a long list of questions. Customers answer with a value from 1 (definitely won't recommend) to 10 (definitely will recommend), which puts them into one of the following categories:

Promoters - customers with a score of 9 or 10. They are your biggest fans and are likely to not only buy from you again, but also recommend you to others.

Passives - customers with a score of 7 or 8 may be satisfied but lack the enthusiasm to recommend you to others. They wouldn't be opposed to offers from your competitors.

Detractors - zákazník ohodnotí službu skóre 6 alebo nižším Sú to nespokojní zákazníci, ktorí môžu poškodiť vašu značku komunikovaním svojej negatívnej skúsenosti s ostatnými, čím brzdia váš rast.

It is best to contact the "opponents" to understand why their experience was unpleasant. This can point you in the direction of useful insights and may even help you turn critics into promoters. To calculate your NPS, subtract the percentage of your detractors from the percentage of your promoters. The NPS score is representative of your customers' overall perception of your brand, rather than just the quality of your products and services (CAPILLARYTECH, 2024).

Customer Retention Rate (CRR)

Customer retention rate (CRR) is the metric with which your current customers are with you over a set period of time. Using this metric, you can determine what makes customers loyal to your brand over others or what keeps them from staying with you (Peker, 2024).

Customer retention rate can be calculated using the following formula (Peker, 2024):

$$\left(\frac{CE - CN}{CS} \right) \times 100 \quad (1)$$

CE= Number of customers at the end of the period

CN= Number of new customers acquired within the period

CS= Number of customers at the start of the period

Repeat Purchase Rate (RPR)

The repeat purchase rate (RPR) is the rate at which customers purchase specific products multiple times. If you have a high RPR, it means you have a few loyal customers who regularly come to you for more of the same purchases. Not only will people who make repeat

orders keep coming back for the same items, but they'll also be more open to trying new products. This is why you should target customers with high APR when launching new products or services (Peker, 2024).

The formula for the RPR is (Peker, 2024):

$$\frac{\text{Total repeat customers}}{\text{Total paying customers}} \quad (2)$$

Upsell ratio (UR)

Upsell ratio measures the ratio of customers who purchased several types of products compared to one product. Specifically, you'll want to have a high ratio of resale customers who purchased high-value items to maximize the value of your cart. You can also achieve a high UR ratio by cross-selling multiple products of the same or similar value. For low UR ratios, you should consider implementing more targeted upselling and cross-selling campaigns. These strategies can effectively increase the average purchase value and maximize revenue from existing customers (Peker, 2024).

You can calculate the customer UR ratio using the following formula (Peker, 2024):

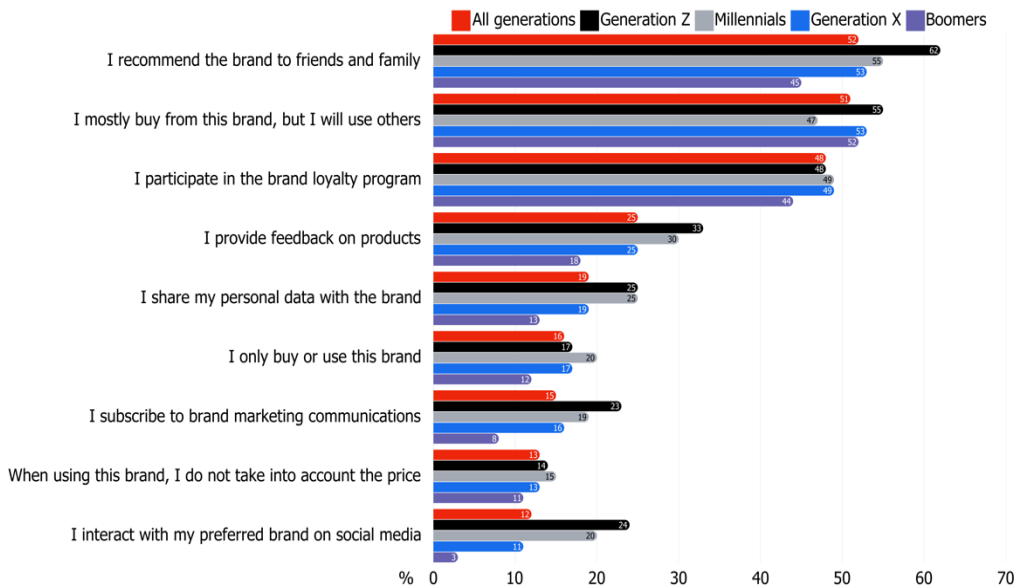
$$\frac{\text{number of customers who buy additional products to the original order}}{\text{Total number of customers}} \quad (3)$$

2.4 Results of the secondary survey

Pricewaterhouse Coopers (PwC) conducted a survey on "Creating loyalty in volatile times". Volatility in consumer behaviour is at an all-time high. The COVID-19 pandemic has fundamentally changed many needs and preferences. Inflation and a turbulent economy are influencing purchasing decisions. All of this is leaving companies thinking about how they can better shape consumer demand and encourage interaction with their customers. The survey included 30 questions, including 7 questions on respondent characteristics with data on: age, gender, race, U.S. region, income, employment status, and marital status. It was distributed to PwC customers. Respondents in the online survey ranged in age from 18 to 70 years old and were categorized into generations as follows: Generation Z (12-25 years old) - 25%, Millennials (26-41 years old) - 39%, Generation X (42-57 years old) - 22%, and Boomers (58-70 years old) - 14%. 62% were female and 38% were male.

Question 1: In which of the following ways, if any, do you demonstrate loyalty to a company or brand? (Select all that apply)

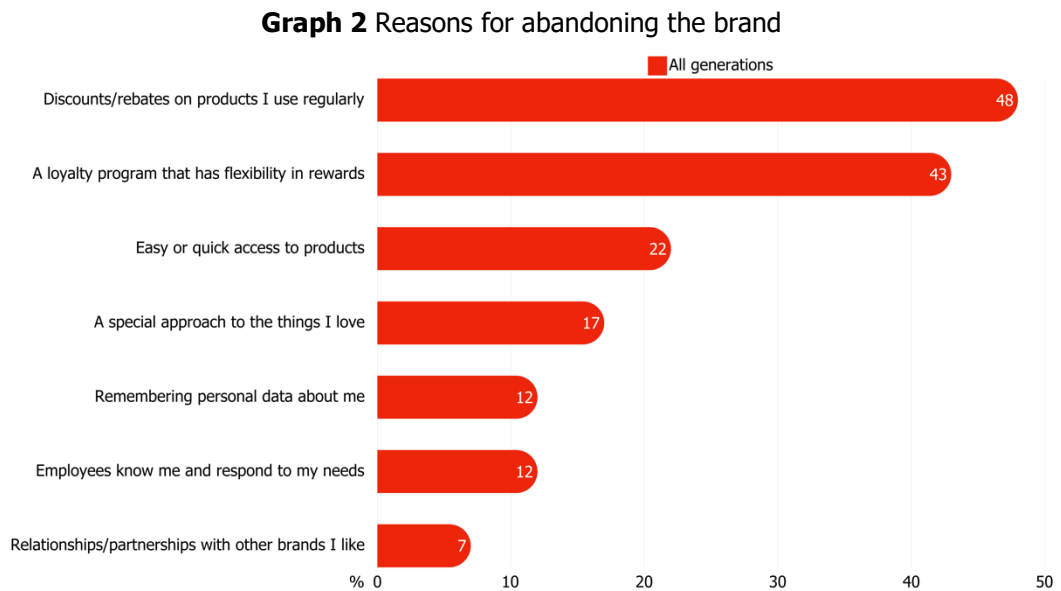
Graph 1 Demonstration of brand loyalty among generations of consumers



Source: own processing according to PwC Customer Loyalty Survey 2022

Between longer lifespans and people interacting with brands at a younger age, brands have more opportunities to connect with consumers and earn their loyalty. Research conducted found that Millennials and Generation Z show loyalty in more ways than Generation X and especially Boomers. While good value for money and quality/consistency of products or services are the main reasons why younger people continue to use a brand, these consumers overall do not feel as strongly about these factors as older consumers. In comparison, more millennials and members of Generation Z value quick service, feel like they are part of a community and have a personalized experience. To this end, more Gen Z members (41%) and millennials (37%) were willing to share their personal interests, preferences or habits with a brand for a more personalized experience.

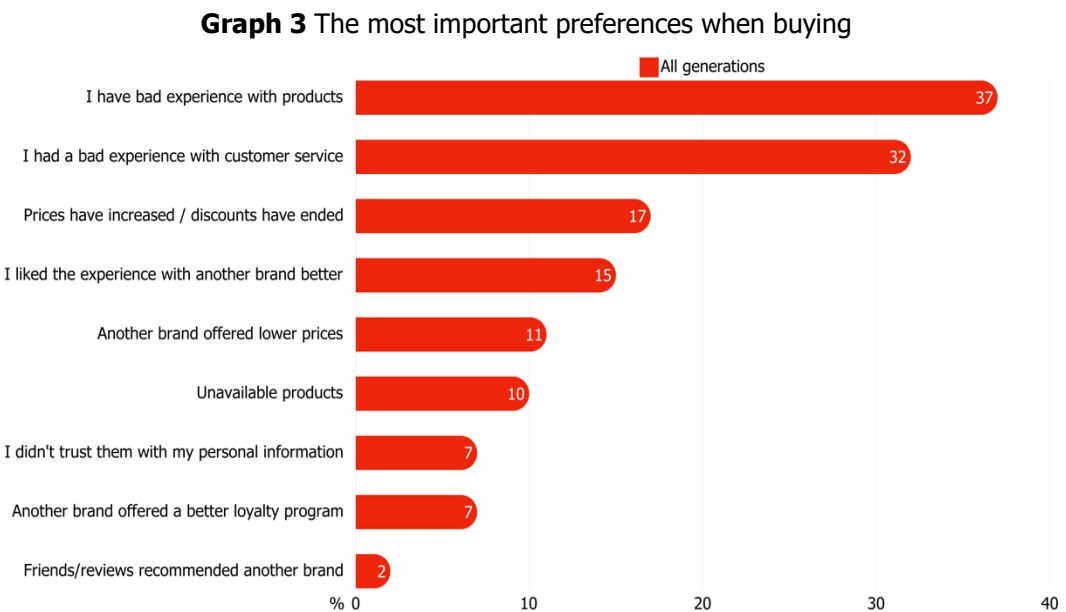
Question 2: Think of a company/brand you stopped using or buying from in the past year. Why did you stop using/purchasing this company/brand? (Choose up to three)



Source: own processing according to PwC Customer Loyalty Survey 2022

Graph 2 shows the reasons why customers are losing brand loyalty, expressed as a percentage for all generations. The most prominent factor is poor product experience (37%), suggesting that product quality is a key determinant of customer satisfaction. The second most common reason is poor customer service experience (32%), indicating the importance of providing professional support and resolving customer issues. Another significant influence is price increases or discontinuation of discounts (17%), indicating customer sensitivity to brands' pricing policies. Preference for other brands (15%) and lower prices from competing brands (11%) show that customers are actively comparing offers and may be influenced by better value or experience elsewhere. A relatively smaller but still significant share is attributed to reasons such as product unavailability (10%), brand distrust related to personal data (7%), and weaker loyalty programme compared to competitors (7%). The lowest share is for recommendation of another brand by friends or after reading reviews (2%), indicating a minor but not negligible influence of word-of-mouth marketing.

Question 3: When it comes to getting a personalized experience from a company/brand, which parts of that personalized buying experience are most important to you? (Select up to three)



Source: own processing according to PwC Customer Loyalty Survey 2022

Graph 3 shows the factors that most influence customer loyalty. The most significant influence is the price advantage in the form of discounts and rebates on products that customers use regularly (48%). Another important factor is the flexibility of the loyalty programme (43%), which allows rewards to be tailored to individual needs. In third place is easy and quick access to products (22%), which means that customers value the efficiency of the purchasing process. This is followed by factors such as special access to favourite things (17%) and remembering personal details (12%). Finally, there's the importance of responsive employees who are able to respond to customer needs (12%) and the lower but ever-present role of partnerships with other brands that a given consumer also likes (7%).

The survey results show a fundamental difference in the manifestation of customer loyalty between generations. While for older generations the main drivers of loyalty are product quality, price and consistency, younger consumers place emphasis on flexibility and a brand's ability to adapt to individual needs. While poor product experience and customer service are critical factors in losing loyalty, a brand's ability to offer competitive advantages, such as flexible loyalty programs, is key to retaining and strengthening loyalty among younger consumers. Further research could focus on how customer loyalty differs in online and offline environments and what factors influence loyalty in digital channels (e.g. e-shops, social media) compared to traditional retailers. There is also an opportunity to explore the long-term effect of loyalty programmes and their ability to retain customers in a highly competitive environment.

Conclusion

Results from the secondary research showed that younger generations, such as millennials and Generation Z, show brand loyalty in different ways and are willing to adapt their behaviour to get a personalised experience. These generations focus on factors such as speed of service, sense of belonging to a community, and personalization of experience, and they are willing to share their personal preferences and data with brands. On the other hand, older generations, such as Generation X and Boomers, value quality and consistency of products or services more. The main reasons why consumers are losing brand loyalty are poor product experience, customer service, and changing pricing policies. It is therefore crucial that brands maintain high product quality, provide excellent customer support and offer transparent pricing policies.

Recommendations for brands are as follows:

Investment in personalisation: to support the development of personalised experiences for younger generations, in particular through digital channels and the use of customer data.

Improve customer service: invest in professional customer support that can effectively solve problems and increase customer satisfaction.

Flexibility in loyalty programmes: develop flexible loyalty programmes that allow rewards to be tailored to individual customer needs and preferences.

Take pricing into account: offer discounts and rebates on popular products and respond to market price expectations to remain competitive.

Purchasing process efficiency: improve access to products and reduce waiting times for services to increase customer satisfaction.

Based on the findings, it is clear that effectively building and maintaining customer loyalty requires a deeper understanding of demographic differences, particularly as it relates to the age and generation of consumers. Different generations exhibit different preferences, expectations and factors influencing their loyalty. These differences underline the need for brands to differentiate their marketing approaches and campaigns according to target groups. Precise targeting based on generational preferences not only enables more effective communication, but also a deeper emotional connection with customers, which is key to long-term loyalty. Brands should implement multi-layered strategies that reflect the specific needs and values of each generation while leveraging data to optimize personalized marketing campaigns. Brands that focus on these factors will have a better chance of retaining the loyalty of their customers, especially those from younger generations, and expanding their awareness in the marketplace.

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