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Gender stereotypes and women's entrepreneurship in Slovakia: Economic obstacles and a proposal of possible opportunities¹

Barbora Brušková²

Abstract

Women's entrepreneurship in Slovakia represents a significant yet underutilized tool in fostering economic growth, constrained by persistent gender stereotypes and systemic barriers. This paper examines the cultural, institutional, individual, and economic factors shaping the entrepreneurial environment for women in Slovakia, emphasizing their interplay of cultural norms, institutional constraints, individual challenges, and systemic economic disparities. Using a systematic review of academic literature and robust statistical data analysis, the study identifies critical barriers, including limited access to financial resources, insufficient mentorship opportunities, and enduring gender stereotypes that impede women's full participation in entrepreneurship. Moreover, the findings underline the economic potential of targeted policy interventions, such as flexible working conditions, strengthened mentoring programs, and systemic measures to eliminate structural inequalities. Addressing these challenges can enable Slovakia to unlock the untapped potential of women entrepreneurs, foster inclusive economic growth, and advance gender equality within the business ecosystem. This research not only identifies existing challenges but also offers actionable strategies to promote a more inclusive entrepreneurial environment.

Key words

women entrepreneurship, gender stereotypes, gender equality, Slovakia

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Introduction

In today's rapidly evolving society, women play a fundamental role, and their contributions are necessary across various sectors, including entrepreneurship. Women's entrepreneurship represents a unique challenge, intertwining the dynamics of economic growth with efforts to achieve gender equality. Although women in Slovakia are progressively entering the entrepreneurial sphere and actively contributing to economic development, although they continue to face significant obstacles that hinder the full realization of their potential.

According to the data from *the World Bank Group* (2024), the global female population reached approximately 4 billion in 2024, marking an increase of more than 160 % since 1960. Despite this growth, the proportion of women in the global population has slightly declined from 49,99 % in 1960 to 49,50 % in 2024. Women represent only 33 % of the

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global workforce, and a mere 2 % of them hold executive positions in the largest corporations (Gender Data Portal, 2023).

In Slovakia, the situation differs from the global average. According to *Eurostat* (2023), women represent 51,10 % of the Slovak population, indicating a slightly higher percentage compared to men. However, the data from *the Statistical Office of the Slovak Republic* (2024) reveal that women's representation in entrepreneurship does not exceed 30 %. Women lead only 29,7 % of the all-registered businesses in Slovakia, with this disparity being more pronounced in the service sector and significantly lower in technology-oriented industries. This segregation results not only in losses at the individual level but also in a squandered economic potential at the national level.

Women's entrepreneurship in Slovakia is presently a pertinent and evolving field, yet it remains a minority phenomenon and an underutilized avenue for economic development and social diversity. Women entrepreneurs frequently face unequal conditions compared to men, and despite gradual progress in gender equality, the entrepreneurial environment continues to be marked by various obstacles that influence women's decisions to enter and retain on entrepreneurial activities. These challenges stem not only from persistent cultural and social stereotypes but also from systemic limitations, such as unequal access to financing and the insufficient availability of mentorship programs tailored to support women. Additionally, women's entrepreneurship in Slovakia is often tangled with their personal and family lives, affecting their entrepreneurial decisions.

The aim of this academic paper is to identify the primary barriers faced by women entrepreneurs in Slovakia and to examine how gender stereotypes influence women's entrepreneurship in the country. Utilizing available data, this study aims to provide concrete proposals and recommendations for improving the entrepreneurial environment and increasing women's participation in business. The research focuses on two key questions:

1. What factors hinder women from engaging in entrepreneurship in Slovakia?
2. What economic impact could result from an increased representation of women in the entrepreneurial sector?

By analyzing these aspects based on available data, this study aspires to highlight the significance of women's entrepreneurship not only from the perspective of economic growth but also in terms of social justice and gender equality.

1 Methodology

To achieve the research goals, a methodological framework was based on a combination of two fundamental approaches: a systematic literature review and a statistical analysis of available data. A systematic literature review was retained to gather relevant insights from academic literature and research reports. This component of the methodology focused on identifying and synthesizing existing knowledge, with keywords such as "gender stereotypes", "women entrepreneurship", "gender equality". The literature review concentrated on examining related scholarly articles, research studies, and reports addressing women's entrepreneurship in the context of Slovakia and the European Union. This approach facilitated the identification of key barriers hindering women's entrepreneurial activities and the analysis of successful measures promoting gender equality within the entrepreneurial environment. The second fragment of the methodology involved a quantitative approach centered on the analysis of statistical data on women's entrepreneurship in Slovakia. Sources included

data from *Eurostat, the Statistical Office of the Slovak Republic*, and other international organizations. The secondary data analysis was conducted to map trends and identify major challenges in this area. The combination of these methodological approaches ensures a comprehensive analysis of the issue and provides valuable insights to formulate recommendations to support women entrepreneurs in Slovakia.

2 Results and Discussion

The persistent stereotype that men are perceived as the dominant economic and political force in society and entrepreneurship and business management is predominantly male domain, while women are primarily associated with activities such as childcare, parenting, and housekeeping, represents one of the most pervasive myths in our society. This oversimplified interpretation of gender division of labor not only fails to reflect reality but also obscures the deep structural roots of gender inequality and discrimination. Conversely, the development of women's entrepreneurship is a significant indicator of global economic growth and the creation of an inclusive and prosperous economy.

There are numerous approaches how to support women's entrepreneurship, with their effectiveness largely contingent upon the specific context and method of implementation. When planning and implementing programs aimed to promote women's entrepreneurship, it is essential to consider the unique needs and challenges faced by women entrepreneurs in each environment, clearly define objectives, ensure the quality of measures enacted, and conduct regular monitoring and evaluation of their impacts.

2.1 Women's entrepreneurship and their representation in business in Slovakia

Women's entrepreneurship in Slovakia represents a significant economic and social phenomenon that reflects ongoing social transformations and the dynamics of economic change. As an integral part of the economy, this domain possesses specific characteristics shaped by a combination of historical, economic, and sociocultural factors unique to the Slovak context. Despite facing numerous barriers—including deeply rooted gender stereotypes, limited access to entrepreneurial opportunities, and challenges in securing financial resources—female entrepreneurs contribute significantly to economic growth and social development.

Gender inequality in entrepreneurship remains one of the primary obstacles that female entrepreneurs must overcome. Effective support for women's entrepreneurship through strategically designed measures is therefore essential for addressing these disparities. Recommended interventions include the implementation of legislative changes promoting gender equality, the provision of financial incentives in the form of grants and targeted loan programs, as well as the development of mentorship and training programs focused on enhancing women's entrepreneurial skills.

These interventions have the potential not only to increase women's participation in the entrepreneurial sphere but also to improve the competitiveness of Slovakia's market economy. Achieving a balanced representation of women in entrepreneurial activities positively impacts innovation, diversification of market approaches, and the strengthening of social inclusion, underscoring their importance for long-term economic sustainability.

Historical and social substances

Historical and social factors in transitioning economies, such as Slovakia, have significantly shaped the position of women in the labor market. The process of economic transformation, marked by the restructuring of large state-owned enterprises and widespread layoffs, disproportionately affected women. According to Kapsdorferová et al. (2019), women faced greater challenges in finding new employment opportunities compared to men. These difficulties were not only a consequence of structural changes in the labor market but also a result of persistent gender stereotypes that restricted their career prospects.

On many occasions, entrepreneurship emerged as an alternative pathway to traditional employment for women. The motivation for this shift stemmed not only from the need to secure economic stability during times of economic uncertainty but also from the desire to balance professional and familial responsibilities. Consequently, entrepreneurship for women became not only a means of navigating economic challenges but also a tool for enhancing their autonomy and enabling active participation in the economic life of society.

This sensation highlights women's ability to respond to structural constraints with innovative and adaptive approaches, thereby contributing to both economic and social development. Female entrepreneurship serves as a testament to resilience and resourcefulness, showcasing how women leverage their skills and networks to overcome barriers and foster progress within a transforming economic landscape.

Current representation of women in entrepreneurship in Slovakia

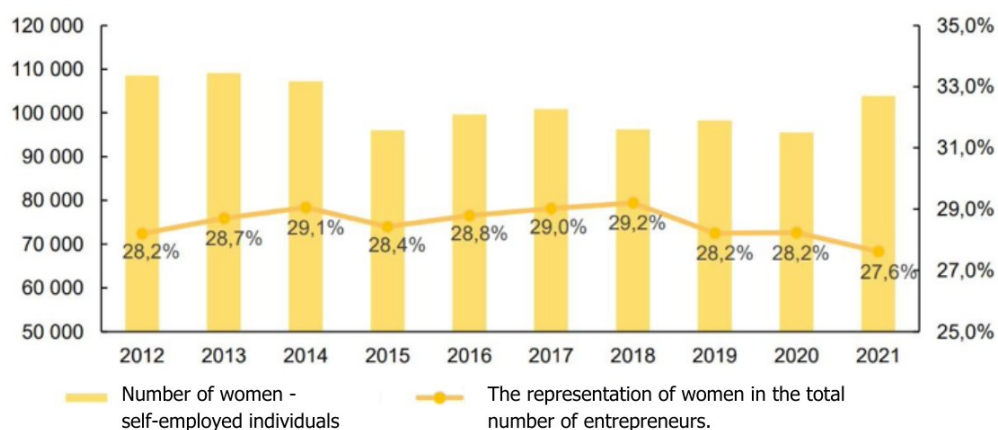
The share of women in entrepreneurship in Slovakia currently stands at approximately 29,7 % of all registered entrepreneurs, indicating their lower representation compared to men. This share is also below the European Union average, where women constitute approximately 34 % of the entrepreneurial population (Eurostat, 2023). In Slovakia, women entrepreneurs are predominantly active in the service sector, particularly in areas such as education, healthcare, and retail. Conversely, their presence in technology and innovation industries remains remarkably lower, reflecting ongoing gender segregation across professions and sectors.

According to data from *the Statistical Office of the Slovak Republic* (2024), women constitute less than 10 % of entrepreneurs in the IT sector. This low representation highlights the persistent social and cultural factors that hinder women entrepreneurs from entering technically demanding or stereotypically "male-dominated" fields. These barriers include deeply ingrained gender stereotypes, a lack of role models, and limited access to specialized education and support.

Such challenges emphasize the need for targeted support and interventions to encourage women to enter technology and innovation sectors and to reduce gender segregation in entrepreneurship. Systematic support measures, such as programs to increase girl's interest in technical disciplines, improved access to funding for women in innovative industries, and efforts to eliminate biases in employment and entrepreneurship, have the potential to enhance women's representation in these fields.

By fostering greater diversity and inclusivity, these measures can contribute not only to a more balanced entrepreneurial landscape but also to the competitiveness and resilience of the Slovak economy. Expanding women's participation in technology and innovation is critical for driving progress and innovation, while also addressing the structural inequalities that limit their full potential in the entrepreneurial environment.

Graph 1 Development of the number of female entrepreneurs and their share of the total number of entrepreneurs

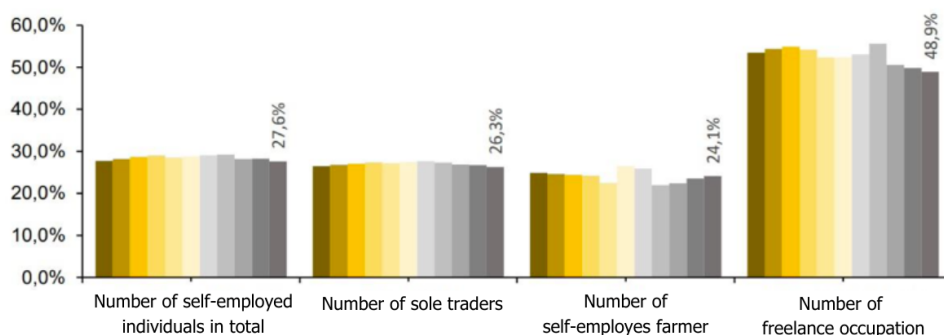


Source: Slovak Business Agency, 2021 based on data from the Register of the Organizations of the Statistical Office of the Slovak Republic

Categorization of Women's Representation by Legal Forms and Sectors

Women's representation across various forms of entrepreneurship shows significant disparities, with the highest share consistently observed among women in self-employed professions. As illustrated in Graph 2, in 2021, women reported nearly half (48 %) of all individuals engaged in freelance occupation. Despite this high representation, a negative trend has been evident over the past three years, with the share of women in this category is decreasing.

Graph 2 Women's representation in the total number of entrepreneurs by legal forms



Source: Slovak Business Agency, 2021 based on data from the Register of the Organizations of the Statistical Office of the Slovak Republic

A similar situation can be observed among female sole traders, where women's representation in 2021 reached 26,3 %, reflecting a slight decrease compared to 2020. Conversely, an increase in the representation of women was recorded among self-employed farmers (Slovak Business Agency, 2021).

These trends indicate the dynamic environment of women's participation in various entrepreneurial forms, highlighting the need for targeted interventions to address sector-specific challenges and support women in maintaining and expanding their roles across diverse areas of the economy.

Graph 3 Representation of female sole traders by sectors from 2016 to 2021



Source: Slovak Business Agency, 2021 based on data from the Register of the Organizations of the Statistical Office of the Slovak Republic

Data presented in Graph 3 indicate that women predominantly engage in sectors that require lower capital investment, particularly within the service industries. Significant representation has been observed in business services (49,3 %), accommodation and food services (41,2 %), and trade (38 %). Conversely, the construction sector exhibits the lowest level of female entrepreneurial activity, with women accounting for only 2,4 % in 2021. Similarly, low representation was recorded in the transportation sector and in information activities (14,5 %).

From a chronological perspective, the share of female entrepreneurs showed mixed results between 2017 and 2021. In certain sectors, such as agriculture and other services, an increase in women's representation was observed, potentially reflecting changes in economic conditions and preferences among women entering entrepreneurship. Conversely, a decrease was recorded in self-employed freelance occupation and among sole traders, likely linked to constraints arising from the pandemic and other market barriers.

Self-employed professions play a fundamental role, not only by providing employment opportunities but also by contributing to economic growth and fulfilling critical social functions. The highest representation of women in self-employed professions is observed in healthcare and social services, where flexible forms of self-employment are often preferred. This trend reflects women's efforts to balance professional and family responsibilities.

Women's entrepreneurship in Slovakia demonstrates notable sectoral specificities, shaped by a combination of social, cultural, individual, and economic factors. Enhancing conditions for women's entrepreneurial activity could have a positive impact on the overall economic development of the country.

2.2 Key factors affecting female entrepreneurs

The entrepreneurship in Slovakia is shaped by a variety of challenges, with female entrepreneurs facing specific barriers that significantly affect their ability to achieve the same level of success as their male colleagues. These barriers can be categorized into cultural, social, individual, and economic factors, all of which are united by the persistent existence of gender stereotypes and structural inequalities. Each of these categories significantly influences women's access to opportunities and their ability to compete in the market. These factors not only limit women's participation in entrepreneurship but also exacerbate gender disparities in access to success and equal opportunities. Understanding and effectively addressing these barriers represent a crucial step toward creating a more inclusive and equitable entrepreneurial environment.

A. Cultural Factors

Cultural factors are a fundamental determinant of gender inequality in the entrepreneurial environment. In Slovakia, these factors are deeply rooted in long-standing gender stereotypes, social norms, values, and traditions that shape societal attitudes to women. These cultural expectations often constrain women's time and energy resources, which could otherwise be allocated to entrepreneurial activities. Additionally, they can negatively impact women's self-confidence and ambitions, deterring them from entering the entrepreneurial sphere.

The persistence of such cultural barriers underscores the need for targeted awareness campaigns and educational programs that challenge these stereotypes and foster a more supportive environment for female entrepreneurs. By addressing these cultural dynamics, it is possible to empower women to completely realize their entrepreneurial potential and contribute more effectively to economic growth and innovation.

- **Gender stereotypes:** One of the primary barriers faced by female entrepreneurs is the persistence of gender stereotypes in society. These stereotypes, particularly those tied to familial responsibilities, limit women's time and professional opportunities. The expectation that women should prioritize roles related to family life and household care significantly restricts their professional ambitions and may hinder their ability to engage in entrepreneurial activities. Gender stereotypes can also result in lower self-confidence among women when deciding to enter the entrepreneurial field. Moreover, these biases influence investors' perceptions, who often favor male entrepreneurs among women entrepreneurs. According to *the Statisti-*

cal Office of the Slovak republic (2024), the low representation of women in technological sectors is largely due to the stereotype that these industries require "technical thinking," a trait more commonly attributed to men.

- **Traditional gender roles:** Societal expectations that women should primarily fulfill roles related to family care, household management, and motherhood constrain their time and mental capacity for entrepreneurial activities, complicating their professional aspirations. These expectations are rooted in the belief that men are naturally predisposed to managing risk and financial decision-making, while family responsibilities are predominantly assigned to women.
- **Social norms:** Social expectations often discourage women from pursuing career goals that require higher levels of independence or time flexibility. These norms are particularly pronounced in more traditional communities, where adherence to gender roles is more strongly enforced, directly influencing women's decision-making regarding entrepreneurship.
- **Perception of female entrepreneurship in society:** Female entrepreneurship is still frequently perceived as a "supplementary" activity rather than a primary role for women. This attitude can reduce support from family or the community, undermining women's confidence to enter the entrepreneurial space and develop their own business ventures. Such perceptions pose a significant obstacle to creating an equitable and supportive entrepreneurial environment for women.

B. Social Factors

Social factors include structural and institutional barriers that significantly affect the entrepreneurial environment for women. These factors are closely linked to legislation, public policies, and the institutional setting, which often fail to account for the specific needs of women, including insufficient networking opportunities and limited access to support systems. Female entrepreneurs frequently face constraints in engaging with entrepreneurial communities or professional associations, which limits their access to mentors, investors, and crucial information. This deficit in social capital can disadvantage their businesses in a competitive environment.

- **Insufficient legislative support:** Current legislation in Slovakia minimally and inadequately addresses the specific needs of female entrepreneurs. This includes the lack of tax benefits for women entrepreneurs during maternity leave, as well as the absence of legal measures aimed at supporting entrepreneurial activities in gender-imbalanced sectors. Legislative bodies have minimally engaged with the issue of gender inequality in entrepreneurship, leading to a lack of systemic solutions.
- **Limited flexibility in working hours:** The lack of flexible working conditions, such as hybrid work models, remote work options, or childcare services, complicates the balancing of professional and family life for female entrepreneurs. This forces women to seek compromises between family and career. These limitations indirectly discriminate against women and reduce their competitiveness in the entrepreneurial market.
- **Insufficient institutional support:** The absence of specialized programs and initiatives focused on supporting women in entrepreneurship, particularly in tech-

nology-oriented sectors where their representation is minimal, is critical for the development of female entrepreneurship. Institutions rarely offer mentoring and networking programs that would help female entrepreneurs establish strategic partnerships and the relationships necessary to manage businesses effectively.

- **Underrepresentation of women in leadership positions:** The significant gender disparity in managerial and decision-making positions contributes to the failure of decision-making processes at the national level to adequately reflect the interests and needs of female entrepreneurs.

C. Individual factors

Individual factors encompass personal abilities, educational attainment, and professional experience, which directly influence women's preparedness for entrepreneurship. Although an increasing number of women in Slovakia achieve higher education, their representation in business-oriented and technical fields remains low. Additionally, individual factors are shaped by disparities in self-perception.

- **Self-confidence and risk attitude:** Women entrepreneurs often exhibit lower levels of confidence when establishing and managing businesses compared to men. This phenomenon is largely influenced by gender stereotypes, which instill the belief from an early age that entrepreneurship is a "male domain." Women generally adopt a more conservative approach to risk, limiting their engagement in high-growth potential business models, such as those in technological sectors. This conservatism often reflects societal expectations that emphasize stability and responsibility for family well-being.
- **Access to education and professional skills:** Despite women in Slovakia attaining higher education level than men (Eurostat, 2023), they less frequently acquire the technical or business skills essential for success in certain entrepreneurial sectors. Particularly, technical and technological industries, traditionally perceived as "male" domains, remain less accessible to women, leading to their underrepresentation in these fields. This lack of representation contributes to limited opportunities for women to engage in entrepreneurial activities in technology-intensive sectors.
- **Social skills and networking:** Women entrepreneurs often have restricted access to business contacts and strategic partnerships compared to men. This limitation hinders their ability to develop entrepreneurial social capital, which is crucial for resource acquisition, business visibility, and expanding entrepreneurial ventures. The inadequate participation of women in business networks thus constitutes a significant barrier to their entrepreneurial development.
- **Family responsibilities:** Family responsibilities are another critical factor limiting women's entrepreneurial activities, where traditional gender norms place primary responsibility for household management on women. The dual drain of work and family commitments reduces the time and energy women can devote to entrepreneurial pursuits, thereby stifling their entrepreneurial potential. The lack of institutional support, such as affordable childcare services, including nurseries and kindergartens, exacerbates this issue, particularly in urban regions where such services are limited or even unavailable.

2.3 Economic impact of increased representation of women's entrepreneurship in Slovakia

Gender diversification in the entrepreneurial landscape is a vital element of sustainable economic growth. A higher representation of women in entrepreneurial structures in Slovakia presents a significant yet underutilized potential. As a country with a high proportion of highly educated women—56 % of economically active individuals (Gender.gov.sk, 2022)—Slovakia faces challenges in effectively integrating women into the business environment. Increasing their participation not only strengthens the competitiveness of individual enterprises but also delivers substantial macroeconomic benefits.

The increased representation of women in entrepreneurship in Slovakia offers several economic advantages, specifically:

I. Diversification of decision-making

One of the key benefits of increased representation of women in entrepreneurship is the diversification of decision-making processes. Gender-diverse leadership fosters more inclusive management, a wider range of ideas, and more effective handling of complex problems. According to data from *the McKinsey Global Institute* (2020), gender diversification contributes to:

- **Innovation:** Women in leadership positions advocate for more long-term and inclusive strategies that support the development of new products and services with higher added value.
- **Problem-Solving:** Gender-mixed teams demonstrate a higher capacity to analyze risk and propose more effective solutions.
- **Employee Satisfaction and Overall Business Performance:** Companies with higher representation of women in leadership show increased employee engagement and achieve better financial results.

II. Increase in gross domestic product (GDP)

Macroeconomic models suggest that an increase in the share of women in entrepreneurship has a significant positive impact on GDP. According to estimates from *Gender.gov.sk* (2022), a 10 % increase in the proportion of female entrepreneurs could raise Slovakia's GDP by 3 %, representing an additional value of approximately 3 billion EUR (Gender.gov.sk, 2022).

III. Enhancement of economic participation

Greater participation of women in entrepreneurship contributes to strengthening economic activity, which is particularly important in the context of demographic challenges, such as an aging population and declining economic activity rates. Specific benefits include:

- **Employment growth:** Studies by *the European Commission* (2020) indicate that a 1 % increase in the economic activity rate of women leads to an overall employment increase of approximately 0,8 %.

- **Support for the development of small and medium enterprises:** Women-led small and medium enterprises are a driving force for regional development, creating new jobs and fostering innovation.
- **Reduction in Income Disparities:** Greater representation of women entrepreneurs can contribute to closing the gender pay gap, thereby increasing household consumption and overall economic prosperity.

IV. Effective utilization of talent

Slovakia has a high proportion of qualified women, yet their representation in the entrepreneurial sector remains limited (29,7 % of entrepreneurs; Eurostat, 2023). More effective utilization of their potential could mitigate economic losses:

- **Reduction of Talent Loss:** Underutilizing the potential of women leads to economic losses, which, according to *the World Bank Group* (2020), can amount to 3–5 % of GDP in countries with low female representation in entrepreneurship, such as Slovakia.
- **Specialized Education:** Women are qualified in key sectors, such as IT, healthcare, and environmental technologies, which are the driving forces of economic transformation.

The economic significance of higher female representation in entrepreneurship in Slovakia is multifaceted, encompassing aspects that go beyond individual benefits. Diversification of decision-making processes increased gross domestic product and effective talent utilization highlight that gender equality in the business environment is not merely a matter of ethical principles but an essential component of economic efficiency. Implementing policies that support female entrepreneurs, such as improving access to financing, expanding mentoring programs, and systematically eliminating gender stereotypes, has the potential not only to enhance Slovakia's competitiveness but also to create a fairer society.

Despite the existing challenges faced by female entrepreneurs in Slovakia, numerous opportunities can foster their economic empowerment and increase their participation in the business environment. These opportunities are linked to legislative initiatives, technological advancements, social innovations, and changing societal perceptions of gender roles. Opportunities for female entrepreneurs arise not only from national initiatives but also from broader European policies and global trends that emphasize creating a more equitable entrepreneurial environment.

2.4 Opportunities for female entrepreneurs in Slovakia

Despite the existing challenges faced by women in business in Slovakia, there are numerous opportunities that can significantly contribute to their economic empowerment and increase their participation in the entrepreneurial environment. These opportunities are linked to legislative support, technological advancements, social innovations, and shifting societal perceptions. These possibilities are not only the result of national initiatives but also broader European policies and global trends that promote a more inclusive business environment.

1) Support from the country and the European Union

The European Union emphasizes the reduction of gender inequalities in its strategies by supporting women's entrepreneurship and removing barriers to their access to business resources and financing. One of the key documents in this area is *the Gender Equality Strategy 2020–2025* (European Commission, 2020), which includes specific measures aimed at supporting women in the business environment. This strategy encompasses grant schemes such as *Women TechEU*, which provide support to female entrepreneurs in technology sectors, along with other initiatives involving legislative measures and specialized programs to improve gender equality in business. Despite these efforts, Slovakia breaks in the effective implementation of these measures.

According to a report by *the European Institute for Gender Equality* (EIGE, 2023), the rate of utilization of available grants and programs in Slovakia is lower compared to the EU average. This deficit can be attributed to insufficient coordination between national authorities and European institutions, as well as a low level of awareness about the available support opportunities.

Improving cooperation between institutions and strengthening information campaigns could significantly enhance the effective use of available resources. These steps would not only increase women's participation in business but also foster Slovakia's innovation potential and contribute to the overall improvement of the country's economic performance.

2) Technology and digitalization

The digital transformation is fundamentally changing the business environment, creating new opportunities for women that are considering entrepreneurship. This transformation allows businesses to be started with lower initial costs, eliminating many traditional barriers to market entry. The growth of online businesses and e-commerce platforms provides women with flexible working conditions, aligning entrepreneurship with family responsibilities. Digital tools also minimize the need for physical presence, which is advantageous for women living in regions with limited infrastructure access. Digitalization has the potential to increase the number of women in business, especially in creative, technological, and ecological sectors. Tools like crowdfunding facilitate women's access to alternative financing sources, reducing their dependence on traditional credit systems. These innovations thus represent a significant impetus for the development of women's entrepreneurial activities in Slovakia.

3) Social innovations

The growing importance of sustainability and corporate social responsibility in business opens new possibilities for female entrepreneurs who lean towards value-oriented business models. Women's traditionally higher engagement in societal benefits and environmental protection positions them prominently in areas such as the production of eco-friendly products, local production, and services promoting social inclusion. Country and international organizations support for social innovations, including green subsidies and educational programs, is essential for the development of these initiatives in Slovakia. Targeted measures in this area can significantly contribute to strengthening sustainable business and supporting women in innovative sectors.

4) Changing social discourse

The way how media and public discourse present female entrepreneurs has a crucial impact on shaping societal perceptions of gender roles in business. Gradual changes in the narrative that portrays women as active and successful participants in the business environment play a significant role in removing gender stereotypes. Promoting successful stories of female entrepreneurs in the media and public space not only motivates more women to engage in entrepreneurial activities but also creates positive role models for younger generations. Such role models can boost women's confidence and influence their decision to enter the business sector. If Slovakia would invest more in initiatives aimed at supporting female entrepreneurs, such as campaigns, professional conferences, and programs for young talents, it could significantly contribute to strengthening a gender-inclusive business environment and creating a positive societal climate for women in business. The identified opportunities for female entrepreneurs represent not only support for reducing gender inequalities but also a significant potential for strengthening their economic role in Slovakia. Systemic support at the legislative, technological, social, and media levels can significantly contribute to create an inclusive business environment that will not only promote gender equality but also enhance the competitiveness of the Slovak economy with long-term impacts on society.

Conclusion

Based on the conducted analyze, it can be asserted that women's entrepreneurship in Slovakia represents a significant yet underutilized potential for economic development and social inclusion. This study has demonstrated that while women contribute to the entrepreneurial landscape, they face barriers that significantly limit their full participation. The identified obstacles, such as gender stereotypes, limited access to financing, and insufficient support networks, require a comprehensive approach and coordinated policies to be effectively addressed.

However, these challenges simultaneously present opportunities for improvement and the development of an inclusive entrepreneurial environment that promotes gender equality. Key measures to reduce gender inequalities include:

1. Legislative measures

The effective implementation of legislative measures is a vital requirement for eliminating gender inequalities in the entrepreneurial environment. The introduction of gender-balanced grant schemes would ensure equal opportunities for both women and men in accessing financial resources for the establishment and development of businesses. These schemes should be complemented by preferential loan programs for women entrepreneurs and other mechanisms addressing the specific needs of women in business (during maternity leave). Additionally, legislation should actively promote women's entrepreneurship in sectors where they are traditionally underrepresented, particularly in technology industries, through targeted support for investments and tax incentives.

2. Support for mentorship and entrepreneurial communities

One of the primary barriers faced by women entrepreneurs is limited access to mentorship and networking opportunities, which are fundamental for business success. The creation of entrepreneurial communities focused on women entrepreneurs could help build their social capital, enable the formation of strategic partnerships, and provide necessary support. Mentorship programs should include experienced businesswomen and experts who can offer guidance, share knowledge, and motivate emerging women entrepreneurs. These initiatives could be funded by national and international organizations, ensuring their sustainability and effectiveness.

3. Educational program reforms

Education plays a necessary role in dismantling gender stereotypes and shaping new generations of women entrepreneurs. It is essential to integrate gender equality topics into curricula at all levels of education from primary schools to universities. These programs should encourage critical thinking about gender norms, support girls in technical and innovative fields, and showcase successful female role models in business. Furthermore, expanding the availability of courses focused on entrepreneurial skills, financial knowledge, and management is necessary to equip women with the tools needed to thrive in a competitive environment.

4. Flexible working hours

The implementation of flexible working models is essential for supporting the effective balance of work and family responsibilities for women entrepreneurs. These models include hybrid employment forms, remote work, part-time hours, and flexible working schedules that adjust women's needs while preserving their entrepreneurial ambitions. Additionally, strengthening family support infrastructure through accessible and affordable early childhood care facilities, such as nurseries and kindergartens, will enable women to smoothly return to the workforce and create constructive conditions for their entrepreneurial activities. Flexible working conditions have the potential to encourage women to participate in sectors where they are traditionally underrepresented, thereby contributing to the gender diversification of the labor market.

The effective women integration into the entrepreneurial sector requires not only support at the legislative and organizational levels but also broader credit of their expertise, abilities, and skills. Supportable inclusion of women entrepreneurs can be achieved through strategic investments in education, transparent processes, and the promotion of equality and respect. In conclusion, women's entrepreneurship is not merely a matter of individual success but also a tool for achieving broader goals, such as economic stability and a more rightful society. Slovakia could draw inspiration from best practices in EU countries that have successfully increased women's participation in the entrepreneurial sphere through systematic changes.

Acknowledgement

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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

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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

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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

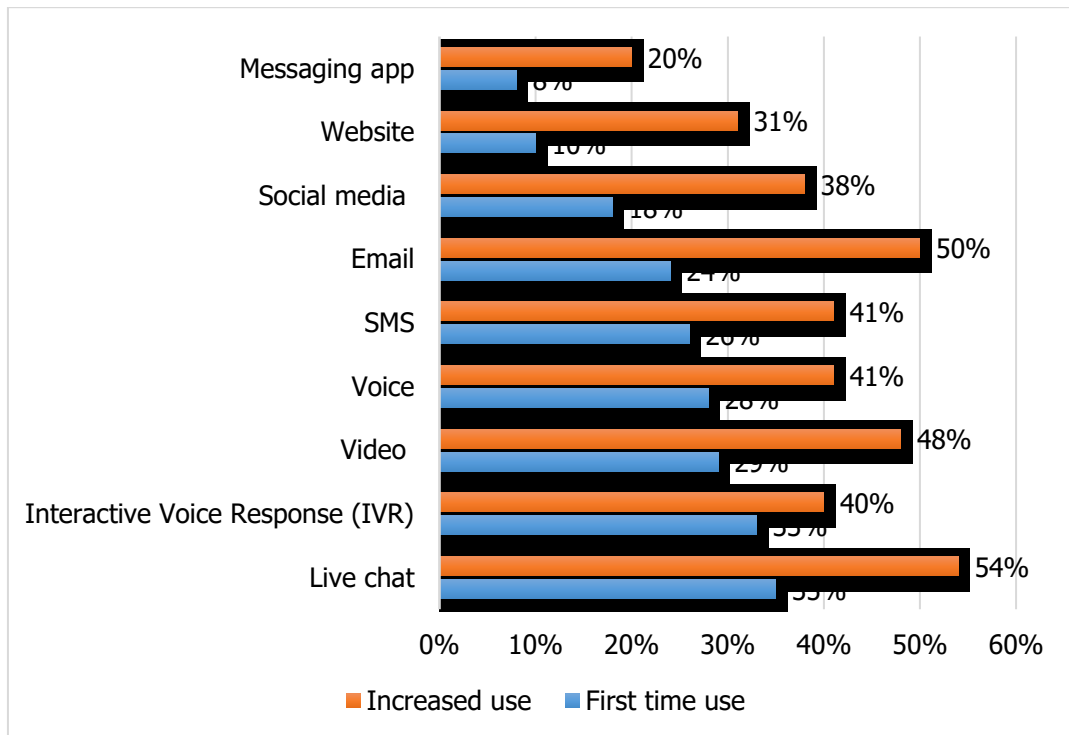
As mentioned above, the COVID-19 pandemic has forced global organizations to adapt to new conditions, leading to a significant increase in the use of digital communication channels. The following chart illustrates which digital communication tools companies have started using for the first time and how 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. These changes illustrate the ability of organizations to adapt to crisis conditions and highlight the need to maintain connectivity and collaboration within teams. Digital platforms provide employees working remotely with the means to communicate effectively, obtain information, and participate in virtual meetings, thereby strengthening their collaborative dynamics and interaction (Sherif, 2020).

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.

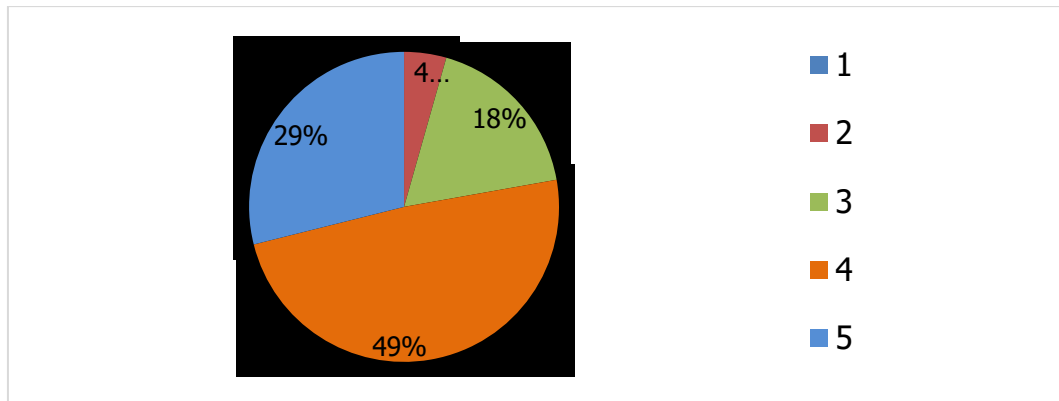
2.4 Employee preferences in the area of digital communication in the selected company

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

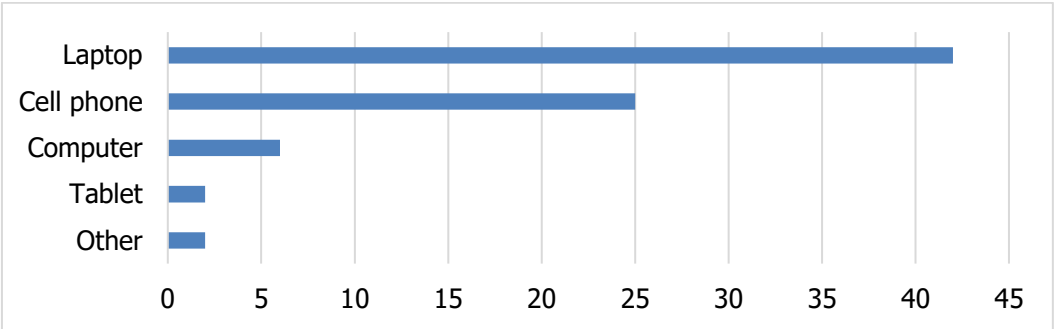
In Graph 2, we can see that almost half of the respondents express satisfaction with online communication between colleagues. A grade of 1, indicating a high level of satisfaction, was assigned to 29% of employees, while 18% of employees took a neutral position, and only 4% of employees expressed dissatisfaction. 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

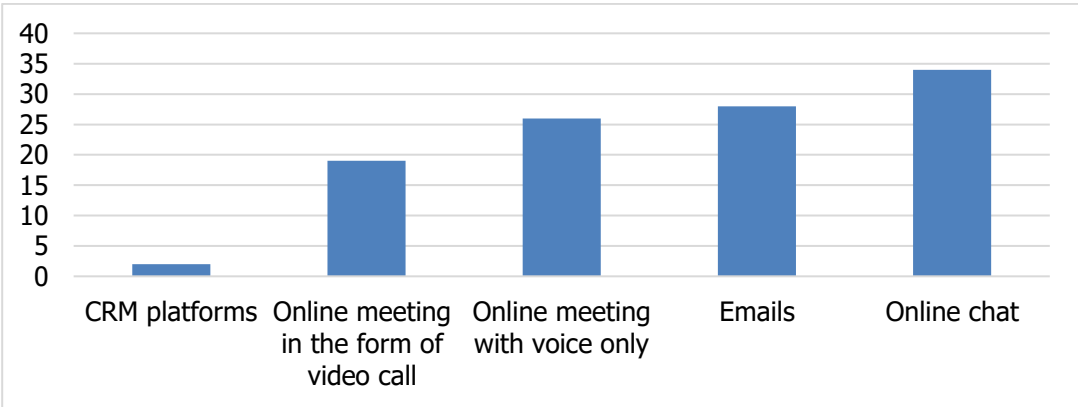


Source : own processing

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.

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.

Graph 4 Preferred form of communication in an offline work environment



Source : Own processing, 2024

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?*

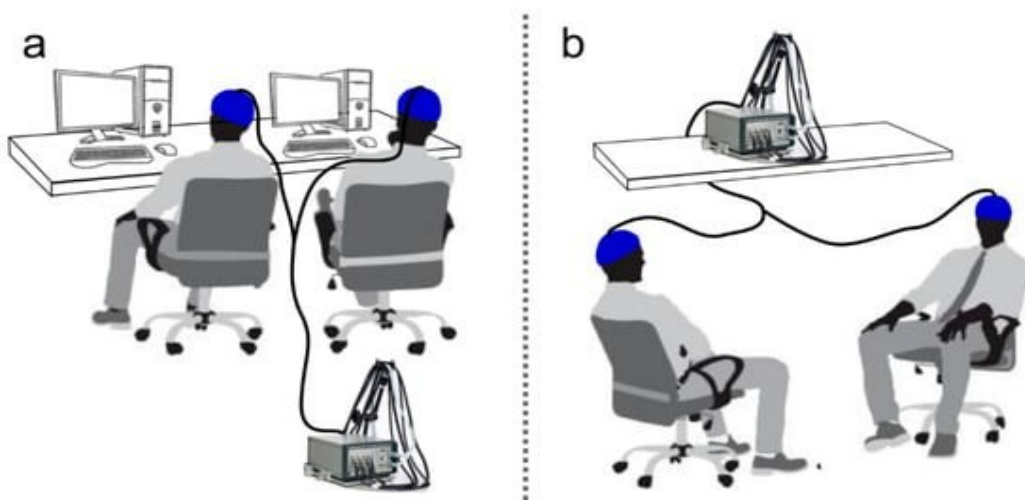
The results indicate that respondents report high satisfaction with online communication between colleagues, reflecting the efficiency and speed of communication in a digital environment. This positive attitude correlates with higher employee satisfaction with working from home, indicating that quality 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).

Fig. 1 Hyperscan recording setup



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

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).

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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Integrated marketing communication, synergy: a systematic literature review

Veronika Goldmanová¹

Abstract

The rapid development of digital technologies and the fragmentation of the media landscape have significantly changed how companies communicate with customers. Integrated Marketing Communication (IMC) is essential for coordinating various communication channels to deliver consistent and efficient messages. This paper presents a systematic literature review of the synergistic effects of IMC, identifying key strategies and factors influencing their effectiveness. The study applies the Systematic Literature Review (SLR) methodology, analyzing research from 2000 to 2024 from databases such as Web of Science, Scopus, and Google Scholar. The findings reveal three primary integration strategies: omnichannel, cross-channel, and multichannel, each offering different levels of integration and customer experience optimization. The study emphasizes the importance of technological readiness, data quality, and cross-functional collaboration for successful IMC implementation. Practical implications suggest companies should invest in integrated data management to enhance marketing performance. The study also addresses challenges related to data fragmentation, technological barriers, and legal constraints. Recommendations for future research focus on applying IMC in small and medium-sized enterprises.

Key words

Integrated Marketing Communication, synergy, omnichannel strategy, marketing integration, systematic literature review

JEL Classification: M31, M37, L82

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Introduction

The rapid advancement of technology and increasing media fragmentation are reshaping how companies communicate with customers. Integrated Marketing Communications (IMC) has become vital for coordinating multiple communication channels to deliver consistent, personalized, and effective messages. As customer experience becomes more critical across both online and offline environments, marketing communication synergies—how various tools and channels work together to create greater value than when used separately—have gained significant attention.

This article systematically analyzes the current literature on the synergistic effects of marketing communication and identifies key factors that influence their effectiveness. Using a Systematic Literature Review (SLR), the study addresses three research questions: (1) What strategies do companies use to integrate marketing channels? (2) What factors influence the success of these strategies? (3) What are the benefits and challenges associated with their implementation?

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While numerous studies explore aspects of omnichannel strategy, few offer a comprehensive review specifically focusing on the synergistic effects of marketing communication channels within the IMC framework. Given the dynamic evolution of marketing communication, this article provides an up-to-date and structured overview to improve the understanding of integrative approaches.

The paper contributes by systematically summarizing current knowledge, identifying key integration strategies, and highlighting factors that significantly impact their success. It addresses a research gap by offering a detailed synthesis of communication channel synergy, complementing existing theoretical discussions, and providing practical insights for optimizing marketing strategies, particularly concerning omnichannel approaches and the integration of traditional and digital tools.

The structure of the article includes the methodology section detailing the systematic literature search, followed by the findings that answer the research questions. Further sections discuss contributions, challenges, practical implications, and suggestions for future research, concluding with key findings and managerial recommendations.

The definition of IMC is a strategic process aimed at coordinating all promotional tools and channels to achieve maximum effectiveness. Schultz, Tannenbaum, and Lauterborn (1993, p. 22) describe IMC as “a coordinating process that brings together all of a company’s promotional activities into one cohesive program”. This approach emphasizes harmonizing all communication efforts to ensure a consistent and unified message across various channels.

Applications of Integrated Marketing Communication: IMC plays a crucial role in modern marketing by creating a consistent brand identity across multiple channels. A coordinated approach helps companies strengthen brand awareness and systematically build a positive brand image. According to Naik and Peters (2009), maintaining message consistency across media enhances perceived brand equity, directly improving campaign effectiveness. Besides brand building, IMC also optimizes resource allocation by reducing duplication, streamlining budgets, and improving return on investment. Schultz, Tannenbaum, and Lauterborn (1993) emphasize that strategically coordinating communication tools increases campaign effectiveness by reinforcing a unified marketing message.

An essential aspect of IMC is the integration of online and offline channels, which enhances campaign dynamics. Naik and Peters (2009) demonstrated that combining digital and traditional media improves effectiveness, while Pauwels et al. (2016) found that using multiple media contributes to a better brand perception. Razak (2023) further highlights that providing a consistent customer experience across channels boosts brand credibility and customer loyalty.

Overall, IMC delivers both strategic brand benefits and operational efficiencies in managing marketing activities, making it an integral part of successful marketing management.

The inclusion of a review of IMC definitions in a systematic literature search allows for mapping the development of the concept, identifying key authors, analyzing changes in the definition of IMC, creating a theoretical framework for further research, and systematically defining the concept. The table provides a clear overview of how the concept of IMC has shifted from the coordination of communication channels to broader strategic relationship management and linkages with business strategy.

Tab. 1 A selection of IMC definitions

Authors	Year	Definition
American Association of Advertising Agencies (AAAA)	1989	"A marketing communications planning concept that recognizes the added value of a comprehensive plan that evaluates the strategic roles of various communications disciplines (e.g., general advertising, direct response, sales promotion, and public relations) and combines these disciplines to provide clarity, consistency, and maximum communications impact."
Schultz, Tannenbaum and Lauterborn	1993	"IMC is the process of strategically managing and implementing audience-brand interactions that engage relevant audiences, create a cohesive and consistent brand image, and strengthen relationships with audiences."
Duncan and Moriarty	1997	"IMC is a relationship management process that involves the planning, creation, integration and implementation of various forms of marketing communications delivered to customers and other relevant external and internal audiences."
Kliatchko	2005	"IMC is the integration process between marketing communications and other aspects of the marketing mix, ensuring consistency and relevance of messages across all channels and touchpoints."
Belch and Belch	2007	"Integrated marketing communications is the coordination of all promotional activities to provide a consistent message about a company and its products."
Přikrylová and Jahodová	2010	"IMC is a comprehensive process that involves planning, creating, integrating and implementing various forms of marketing communications to deliver a consistent and compelling message about an organization and its brands."
Matušínská and Stoklasa	2015	"Integrated marketing communication is necessary to achieve a synergistic effect of the communicated message to the target group, emphasizing the interconnectedness of all elements of the communication mix."
Clow and Baack	2018	"IMC is the coordination and integration of all marketing communications tools, channels and resources within a company into a cohesive program that maximizes impact on consumers and other end users at minimal cost."
Kotler and Keller	2019	"IMC is a marketing communications planning concept that recognizes the added value of a coherent plan, whereby the plan considers the role of individual communication tools and how they integrate to create a clear and consistent message."

Source: own processing

The inclusion of an overview of IMC definitions in the SLR allows for mapping the development of the concept, identifying key authors, analyzing changes in the definition of IMC, creating a theoretical framework for further research, and systematically defining the concept. The table provides a clear overview of how the concept of IMC has shifted from the coordination of communication channels to broader strategic relationship management and linkages with business strategy.

Evaluation of the Evolution of IMC Definitions

The evolution of IMC definitions shows a gradual shift from coordinating communication channels (AAAA, 1989) to strategically managing stakeholder relationships (Duncan & Moriarty, 1997) and integrating marketing tools within business strategies (Kliatchko, 2005). Initially, IMC was seen as coordinating communication activities to address media fragmentation and ensure consistent messaging (AAAA, 1989). Schultz et al. (1993) expanded this concept by emphasizing strategic management of brand-audience interactions. Later, Duncan and Moriarty (1997) added relationship management to the IMC framework, focusing on stakeholder engagement. Subsequently, Kliatchko (2005) linked IMC with the marketing mix and strategic business goals, emphasizing customer-centric communication.

Belch and Belch (2007) summarized IMC as coordinating promotional activities for unified communication. Clow and Baack (2018) emphasized both coordination and cost-efficiency, while Kotler and Keller (2019) highlighted the strategic planning aspect of integrating communication tools into a coherent message. Recent definitions (2010–2024) further stress the importance of digitalization, omnichannel strategies, and personalization. Přikrylová and Jahodová (2010) describe IMC as a holistic process that emphasizes consistency in brand communication. Matušínská and Stoklasa (2015) highlight the synergistic effect and connectivity within the communication mix, while Verhoef et al. (2015) define omnichannel as the next stage of multichannel marketing, focusing on a seamless customer journey.

Current Trends and Impact on IMC: IMC has evolved from channel coordination to a broader strategic approach that integrates relationship management and corporate governance. In a digital and multi-channel environment, consistent and integrated marketing communication is crucial for brand management. Studies like Naik & Peters (2009) and Pauwels et al. (2016) emphasize the synergistic impact of combining online and offline channels. Modern approaches, including omnichannel strategies, focus on providing a seamless, personalized customer experience across all touchpoints (Razak, 2023). However, challenges like technological barriers, data fragmentation, and strategic alignment persist, requiring businesses to address infrastructure gaps and maintain message consistency across platforms.

Despite the extensive literature on marketing communications, the question of effective integration of online and offline marketing channels remains open. Existing research has focused on particular aspects of integration, but there is a lack of a systematic synthesis of the strategies and factors that determine the success of these approaches. Understanding the benefits and challenges associated with implementing these strategies in corporate practice also remains an important issue. Given this gap in the literature, this study aims to answer the following research questions:

- RQ 1. What strategies do businesses use to integrate online and offline marketing channels?
- RQ 2. What factors influence the success of these strategies?
- RQ 3. What are the main benefits and challenges associated with marketing channel integration?

The selection of research questions in this study is based on the identification of key gaps in the literature and the need to synthesize existing knowledge in the field of marketing communication. The main objective of this study is to systematically review current marketing channel integration strategies, identify factors influencing their success, and analyze their benefits and challenges. This approach is necessary to understand the effective use of synergies between online and offline marketing activities, a topic still under-researched in the current literature.

The first research question examines how businesses integrate online and offline marketing communications. While IMC literature often outlines various approaches (Schultz et al., 2008; Percy, 2013), few studies evaluate their effectiveness in the current digital context. Technological advancements and changing consumer behavior have driven a shift towards omnichannel and cross-channel strategies (Schramm-Klein et al., 2011). Understanding the most effective integration practices helps businesses optimize their marketing efforts.

The second question focuses on identifying key factors that affect the success of integration strategies, including technological infrastructure (Denegri-Knott et al., 2019), organizational culture (Porcu et al., 2012), and customer orientation (Chen & Chi, 2019). Analyzing these factors provides insights into how businesses can better implement integration strategies and adapt to changing market conditions. Understanding these success factors helps managers focus on critical areas when planning integrated marketing efforts.

The third question explores the impact of marketing channel integration on business performance and customer experience. Effective integration can lead to higher customer loyalty, better marketing efficiency, and improved personalization (Zhang & Kumar, 2013; Naik & Peters, 2009). However, challenges include technological complexity, organizational resistance, and measurement difficulties (Dvořák & Konečná, 2020). Identifying these benefits and challenges helps businesses assess whether channel integration is worth the investment and how to overcome potential obstacles.

Summary of RQ Selection: These research questions were chosen to develop A comprehensive understanding of marketing communication synergy. They address existing strategies, success factors, and the practical implications of integration. This approach connects theory with practical insights, providing a foundation for managerial decision-making in marketing integration.

1 Methodology

The study applied a Systematic Literature Review methodology due to its structured and repeatable approach to analyzing existing research on marketing communication synergy. SLR enables the identification of key concepts, patterns, and relationships, while minimizing selection bias typically present in narrative reviews (Tranfield, Denyer & Smart, 2003). This methodology is particularly suitable for synthesizing current knowledge and establishing a robust theoretical foundation for future research (Snyder, 2019).

To ensure scientific validity, the research was conducted in several stages:

1. Definition of inclusion and exclusion criteria
2. Selection of data sources and search strategies
3. Analysis and categorization of studies

The inclusion criteria focused on peer-reviewed academic journals published between 2000 and 2024 to ensure high academic quality and relevance. This period was chosen due to significant developments in marketing communication, particularly the rise of digital platforms (Leeflang et al., 2014). Only studies directly addressing marketing channel integration and synergy were considered. Publications without a specific focus on integration strategies, informal reports, and commercial analytics were excluded (Okoli. & Schabram, 2010).

The research primarily used Web of Science, Scopus, and Google Scholar, chosen for their coverage of peer-reviewed articles (Harzing & Alakangas, 2016). Google Scholar was included as a supplementary source to capture broader academic discussions, despite its inclusion of non-reviewed literature (Gusenbauer & Haddaway, 2020).

The search strategy utilized a combination of keywords related to marketing synergy and channel integration, such as 'integrated marketing communication', 'marketing channel

synergy', and 'omnichannel marketing effectiveness'. Boolean operators (AND, OR) optimized the search for relevant studies. The complete list of keywords and their combinations is presented in Table 2.

Tab. 2 List of keywords

Category	Keywords
Main keywords	Integrated marketing communication (IMC) Marketing channel integration Marketing synergy effect
Strategies and measurement of effectiveness	Cross-channel marketing Customer journey mapping Marketing performance analytics ROI in marketing campaigns
Trends and technological factors	AI in marketing Privacy-focused marketing Cookieless tracking solutions
Specific keywords for SLR	'Marketing synergy' + 'meta-analysis' 'Integrated marketing communication' + 'empirical research'

Source: own processing

The selection process occurred in two stages: Initial selection: Identifying relevant studies through expert knowledge, citation tracking, and targeted searches in marketing communication journals. Database validation: A retrospective search in Web of Science, Scopus, and Google Scholar confirmed thematic coverage, generating around 3,000 entries with keywords like "IMC integration" and "omnichannel strategy". The final sample comprised 37 studies (24 empirical and 13 theoretical).

The SLR methodology provided a comprehensive overview of the synergistic effects in marketing communication. By defining strict inclusion criteria and using reputable databases, the study minimized bias and ensured valid interpretations. This methodology laid a strong theoretical foundation for analyzing research questions and discussing the results in the subsequent sections.

2 Results

This section presents the main findings of a systematic literature review on synergistic effects of marketing communication. The results are structured according to three research questions and provide a systematic synthesis of marketing integration strategies, the factors influencing their success, and their impact on customer experience and firm performance.

2.1 Overview of the main strategies for integrating marketing communication channels

This section aims to answer the research question **RQ 1: What strategies do businesses use to integrate online and offline marketing channels?**

Research identifies three main integration strategies: omnichannel, cross-channel, and multichannel. These approaches differ in their level of channel integration and consistency in customer experience.

Omnichannel Strategy: The omnichannel strategy offers the highest level of integration, linking all communication and sales channels into one seamless system. It ensures consistent, personalized communication across digital and physical touchpoints. Studies show that companies using omnichannel strategies see 30% higher customer loyalty and increased conversion rates due to real-time targeting (Schramm-Klein et al., 2011; Smith, 2018). However, high implementation costs can be a barrier for smaller firms (Jones, 2020).

Cross-Channel Strategy: The cross-channel strategy connects selected channels to share customer data, improving coordination between online and offline environments. It is particularly effective for remarketing and tracking customer interactions, with companies reporting up to 20% higher return on investment through targeted campaigns (Chen & Chi, 2019; Shamsi Bahar et al., 2021).

Multichannel Strategy: The multichannel strategy uses multiple independent channels without integration. This approach can lead to inconsistent communication and a fragmented customer experience makes it less effective for tracking the customer journey (Taylor & Lee, 2019; Joo & Lee, 2021).

These strategies reflect different levels of integration, with omnichannel being the most comprehensive, followed by cross-channel, and multichannel being the least integrated.

2.2 Factors affecting the success of integration strategies

This section aims to answer the research question: **RQ 2: What factors influence the success of these strategies?**

Effective integration of marketing channels depends on a combination of technological, data, organizational, and legal factors. Research has identified four key areas that are critical to the success of implementing these strategies.

Technological readiness as a basis for success: Technology plays a key role in the successful integration of marketing channels. Denegri-Knott et al. (2019) and Brown (2021) confirm that businesses that invest in advanced customer relationship management (CRM) systems, marketing automation, and analytics platforms achieve greater efficiency. For example, a study by Zhang & Kumar (2013) shows that the use of AI (artificial intelligence)-driven analytics enables better prediction of customer behaviour and thus more effective personalization. Firms with a robust technology infrastructure can respond more quickly to customer preferences, leading to higher conversion and lower acquisition costs.

Data availability and quality: Effective channel integration is heavily dependent on the availability of quality data and its proper use. A study by Jones (2020) confirms that companies that have access to centralized data platforms are better able to analyze customer behavior and optimize the personalization of offers.

In contrast, data fragmentation between disparate systems is a major obstacle to achieving full integration (Zhang & Kumar, 2013). If data is not properly synchronized, it can lead to inconsistencies in customer communication and reduced effectiveness of marketing campaigns.

Organizational factors and management support: Another key factor is the level of cooperation between departments and the support of top management. Porcu et al. (2012) and Taylor & Lee (2019) emphasize that the successful implementation of integrated marketing requires strong interdisciplinary coordination between marketing, IT, and sales teams. In the absence of this collaboration, conflicts can arise that hinder the effective use of available technology tools.

Legal regulation and restrictions on data protection: The legal aspects present an additional challenge in the field of integrated marketing, especially regarding data protection. Chen & Chi (2019) point out that GDPR and other regulatory measures significantly limit the possibilities of personalization and data handling. Firms must ensure that their marketing strategies comply with applicable regulations, which may limit their ability to target advertising based on customer preferences.

2.3 Impact of integration on customer experience and business performance

This section aims to answer the research question: **RQ 3: What factors influence the success of these strategies?**

Integrating marketing channels significantly impacts customer experience and overall business performance. Studies indicate that well-implemented omnichannel and cross-channel strategies enhance customer satisfaction, loyalty, and conversion rates (Schramm-Klein et al., 2011). However, challenges such as technological barriers, data fragmentation, and regulatory issues persist (Chen & Chi, 2019).

Benefits of Marketing Channel Integration: One of the primary benefits is an improved customer experience through consistent communication. Customers expect seamless and personalized interactions across both online and offline channels. Firms that ensure a unified experience (e.g., personalized offers and consistent customer support) report higher satisfaction and engagement (Jones, 2020). Additionally, customer loyalty and retention increase when communication is consistent and tailored, with firms using omnichannel strategies seeing up to 25% higher retention than those with traditional multichannel models (Schramm-Klein et al., 2011).

Moreover, integration optimizes marketing costs and boosts campaign effectiveness. By combining digital and traditional advertising strategies, businesses can reduce acquisition costs by up to 30% through better targeting and data-driven optimization (Naik & Peters, 2009). Additionally, advanced CRM and predictive analytics enable companies to adapt to customer behavior in real-time, increasing engagement and conversion rates (Jones, 2020).

Challenges of Marketing Channel Integration: Despite its advantages, channel integration poses several challenges. Technological complexity and the need for a robust infrastructure can be costly, particularly for small businesses. Outdated CRM systems and fragmented databases hinder effective personalization (Taylor & Lee, 2019). Furthermore, data fragmentation across different systems reduces the accuracy of customer insights, limiting the effectiveness of marketing strategies (Zhang & Kumar, 2013).

Another significant challenge is data protection regulations, such as GDPR, which restrict the collection and use of customer data for personalized marketing (Chen & Chi, 2019). Additionally, organizational resistance to change can slow the adoption of new technologies, requiring investment in employee training and a shift in company culture (Dvořák & Konečná, 2020).

Opportunities and Strategic Advantages: Despite the challenges, integration offers significant opportunities, including greater personalization and customer loyalty. Consistent and targeted communication fosters stronger relationships and improves conversion rates. Additionally, integration allows for efficient use of marketing investments, as automated data analysis helps optimize budgets and increase return on investment (ROI). Successful integration also provides businesses with greater agility, enabling quick responses to market changes and customer preferences, ultimately enhancing competitiveness.

2.4 Answers to the research questions

Based on the systematic analysis of the literature, the following answers to the three research questions are formulated:

The first research question addresses the strategies that businesses use to integrate online and offline marketing channels. The literature shows that companies primarily adopt three approaches. The most advanced of these is omnichannel marketing, which links all communication and sales channels into one coherent ecosystem. This approach allows for the creation of a personalized and consistent customer experience across various platforms. A slightly less integrated approach is cross-channel marketing, which connects selected channels to track customer interactions and enable more effective remarketing activities. In contrast, multichannel marketing represents a more traditional model where companies use multiple channels simultaneously without integrating them, resulting in lower efficiency and a less seamless customer journey.

The second research question explores the factors influencing the success of these integration strategies. Four key factors were identified as critical. The first is technology readiness, as companies equipped with advanced CRM systems, analytics tools, and marketing automation tend to achieve better results. The second factor is data availability and quality. Having centralized and accurate customer data allows for higher levels of personalization and more precise campaign targeting. The third factor is organizational culture and collaboration between departments, especially between marketing, IT, and sales, which is essential for the smooth implementation of integration solutions. Finally, the legal framework, particularly regulations like GDPR, significantly influences the ability to use personalized data, impacting the overall effectiveness of marketing strategies.

The third research question focuses on the benefits and challenges associated with marketing channel integration. Among the main benefits is increased customer loyalty, driven by consistent and relevant communication across channels. Furthermore, integration leads to more efficient use of marketing investments, especially through improved targeting and an ROI. Additionally, integration provides greater flexibility in responding to changes in customer behavior, enabled by the use of real-time data. However, the integration process also presents several challenges. One of the major obstacles is the complexity of technology and high implementation costs, which pose significant barriers, particularly for smaller businesses. Another challenge is data fragmentation between different systems, which limits the effectiveness of data analytics. Lastly, legal restrictions on data protection, such as GDPR, reduce the potential for personalization and targeted marketing efforts.

These findings not only synthesize the current state of knowledge but also indicate potential avenues for future research and practical applications of integration strategies in marketing communication.

2.5 Chapter Summary

The results of the analysis show that an omnichannel strategy delivers the most significant benefits in terms of customer experience, loyalty, and marketing investment efficiency. Customers expect consistent and personalized communication across channels, leading to higher retention and conversions. Although companies with integrated strategies achieve higher ROI, implementing these approaches is not without its challenges. Technological barriers, fragmented customer data, and regulatory constraints are among the main obstacles businesses must overcome.

The table summarizes the key findings of this chapter and provides an overview of integration strategies, success factors, impacts on businesses, and the main challenges associated with their implementation.

Tab. 3 List of keywords

Category	Key findings	Links to studies
Main challenges	Technological complexity and high implementation costs limit the transition to an omnichannel strategy.	Schramm-Klein et al. (2011); Smith (2018)
	Data fragmentation between platforms reduces the accuracy of personalization and the effectiveness of marketing campaigns.	Zhang & Kumar (2013); Jones (2020)
	Data protection regulations (e.g. GDPR) limit the use of personalized data.	Chen & Chi (2019); GDPR regulation
	Staff resistance to change and the need for training slow down the effective implementation of integrated strategies.	Dvořák & Konečná (2020); Behavioral Change Resistance (2024)
	Problems with connecting online and offline channels lead to a loss of consistency in the customer experience.	Taylor & Lee (2019); Schramm-Klein et al. (2011)
	The lack of uniform measurement of the effectiveness of integrated marketing campaigns complicates budget optimization.	Naik & Peters (2009); Zhang & Kumar (2013)
Main opportunities	Personalization and increased customer loyalty through channel integration and a consistent customer experience.	Schramm-Klein et al. (2011); Jones (2020)
	More efficient use of marketing investments and higher returns thanks to data-driven analytics.	Naik & Peters (2009); Smith (2018)
	Flexibility and the ability to react quickly to market changes make businesses more competitive.	Jones (2020); Zhang & Kumar (2013)
	Linking data across platforms enables better prediction of customer behavior and optimization of offers.	Chen & Chi (2019); AI- driven Marketing Insights (2024)
	Marketing process automation reduces campaign management costs and increases work efficiency.	Brown (2021); Taylor & Lee (2019)
	Channel integration enables more accurate targeting and better use of AI for predictive analytics.	Denegri-Knott et al. (2019); AI-driven Marketing Insights (2024)

Source: own processing

3 Discussion

The results of the systematic literature review confirm that omnichannel marketing represents the most advanced form of marketing integration, where all communication and sales channels are linked into one ecosystem. This finding is consistent with studies by Schramm-Klein et al. (2011) and Smith (2018), which demonstrate that companies with effectively implemented omnichannel strategies achieve higher customer loyalty and increased return on marketing investment.

Despite the effectiveness of the omnichannel approach, the results indicate that many companies still use multichannel or cross-channel strategies, mainly due to the technical and organizational challenges of full integration (Taylor & Lee, 2019; Zhang & Kumar, 2013).

Key success factors include technological readiness, analytical tools, and management support. Companies with advanced analytics achieve better personalization and customer experience optimization (Denegri-Knott et al., 2019; Brown, 2021). On the other hand, technological barriers, data fragmentation, and regulatory constraints (especially GDPR) remain significant challenges to integration (Chen & Chi, 2019; Dvořák & Konečná, 2020).

Practical Implications for Businesses: Companies aiming to implement an omnichannel strategy should invest in technology infrastructure (CRM, analytics, automation) and centralized data management. High-quality, interconnected databases enable effective personalization and campaign optimization. It is also essential to ensure compliance with legislation (GDPR) and foster internal collaboration between marketing, IT, and customer service departments.

Theoretical and Practical Contribution: This study contributes to the development of marketing integration by identifying key success factors and barriers of IMC. It expands the theoretical framework with new insights into technological readiness, data integration, and internal collaboration.

Limitations and Future Research: The study is limited by the selection of sources (only English publications from Web of Science, Scopus, and Google Scholar), which may cause a bias. Additionally, most of the existing studies focus on large companies, limiting the generalizability of the results to small and medium-sized enterprises.

Future research should focus on:

- Long-term empirical studies quantifying the synergistic effects of omnichannel strategies (e.g., loyalty, ROI).
- Applying integration strategies in less-explored sectors (e.g., B2B, healthcare, manufacturing).
- The impact of advanced technologies (AI, automation) on the effectiveness of integration.
- The effect of legal regulations (GDPR) on marketing practice and findings a balance between personalization and data protection.
- Customer perceptions of integrated marketing activities – understanding their reactions to personalized campaigns and their expectations regarding communication transparency.

Conclusion

This study focused on analyzing channel marketing integration strategies, identifying key success factors, and major barriers to implementing these approaches. The results of the systematic literature review showed that the integration of online and offline marketing activities plays a vital role in building a consistent customer experience, increasing the effectiveness of marketing campaigns, and enhancing corporate competitiveness.

Summary of key findings: Based on the analysis, three main approaches to marketing channel integration can be identified. The first is the omnichannel strategy, which represents the most advanced form of integration, consisting of the unification of all communication and sales channels into one interconnected ecosystem. This model enables the creation of a fully personalized and consistent customer experience across the entire customer journey. The second approach is a cross-channel strategy that seeks to coordinate selected channels to streamline customer interactions, track customer behavior, and optimize campaigns. The traditional approach remains a multichannel strategy, where businesses use multiple communication channels in parallel, but without linking them together, leading to lower efficiency and a fragmented customer experience.

The research also highlighted four key factors that significantly influence the success of marketing channel integration. These are: technological readiness, particularly investment in CRM systems, marketing automation and analytics tools; the availability of quality and centralized data that underpins personalization and campaign optimization, organizational culture and the level of collaboration between departments, particularly between marketing, IT and sales; and last but not least, the ability to ensure compliance with legal regulations, particularly GDPR.

In addition to these factors, the main challenges faced by firms in implementing integrated strategies were also identified. These include the technological and investment complexity of implementing omnichannel approaches, problems with data fragmentation and lack of system synchronization, regulatory constraints on handling personal data, and last but not least, employee resistance to change, which often hinders organizational transformation. On the other hand, the integration of marketing channels brings several opportunities, dominated by the possibility of increased customer loyalty and engagement, more efficient use of marketing investments through data analytics and automation, and greater flexibility and ability to adapt quickly to changes in the market environment.

Practice recommendations: Based on the analysis of the findings, several practical recommendations can be formulated for businesses seeking to effectively integrate their marketing channels. First and foremost, it is advisable to invest in modern CRM and analytics tools. Implementing centralized CRM systems allows for the linking of online and offline customer interactions, thereby increasing the accuracy of campaign management and message targeting. In addition, the use of technologies such as artificial intelligence and predictive analytics will enable the business to optimize the marketing budget based on more accurate data inputs and real-time customer behavior.

Further, companies should focus on data quality and integration across systems. Creating a unified data ecosystem is key to ensuring that information is easily synchronized across different platforms and tools. This includes establishing standardized procedures for collecting, storing, and analyzing customer data to help prevent information fragmentation and misinterpretation.

Equally important is providing a quality customer experience through an omnichannel strategy. Businesses should strive for consistent communication across all channels - from e-commerce and physical stores to mobile apps and social media. Emphasizing personalization and the ability to respond to customers in real time increases satisfaction, promotes loyalty, and improves retention.

In the area of data policy and legal framework, it is necessary to ensure compliance with data protection regulations, in particular the GDPR. Companies should strive for a balance between personalization of marketing communications and transparency in data processing. The use of anonymization and secure cloud solutions can effectively reduce the risks associated with customer privacy.

The key to the successful implementation of an integrated strategy is to foster internal collaboration across departments. Marketing, IT, sales, and customer service should share a unified vision based on data integration and coordination of activities. At the same time, businesses should invest in regular staff training to ensure that not.

Not only the correct use of available tools, but also the ability to interpret and use customer data to make strategic decisions.

Concluding remarks: This study confirms that integrated marketing communications is a key success factor for modern businesses that want to achieve greater efficiency, customer satisfaction, and competitiveness. The results show that businesses should focus on developing technology infrastructure, quality data management, and cross-industry collaboration to maximize the benefits of marketing channel integration.

With rapidly changing market conditions and increasing customer expectations, businesses need to adapt their strategies with an emphasis on flexibility and the ability to innovate. Developments in artificial intelligence, automation, and data-driven marketing present new opportunities that can help businesses improve the customer experience and increase the effectiveness of marketing investments.

In conclusion, the successful integration of marketing channels is not only a technological issue but also a strategic decision that requires a comprehensive approach and constant adaptation to the dynamic business environment.

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Národná značka¹

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National brand

Abstract

The aim of this paper is to analyze the current state of the national brand of the Slovak Republic from the perspective of theoretical foundations, strategic communication frameworks, and its perception by target audiences. Particular attention is given to assessing the level of awareness of the national brand among both domestic residents and international respondents, as well as to identifying factors influencing the perception of national identity and country of origin. The quantitative component of the research was conducted through online questionnaires, with the results providing an indicative overview of Slovakia's brand positioning in both domestic and international contexts, including aspects of sustainability and consumer ethnocentrism.

Keywords

brand, branding, brand associations consumer ethnocentrism; patriotism

JEL Classification: M16, M31, Z10

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Úvod

V globalizovanom svete, kde štáty čoraz viac súťažia o investície, turistov, medzinárodný vplyv a rešpekt, sa otázka strategickej identity krajiny stáva mimoriadne dôležitou. Koncept národnej značky (nation brand) predstavuje systematické a dlhodobé úsilie o formovanie a riadenie reputácie štátu prostredníctvom rôznych komunikačných nástrojov, symbolov a aktivít (Anholt, 2013). Táto stratégia nadobúda osobitný význam najmä pre menšie krajiny ako Slovenská republika, ktoré sa po získaní nezávislosti usilujú o posilnenie svojej identity, zvýšenie medzinárodnej viditeľnosti a budovanie pozitívneho imidžu na globálnom fóre.

Cieľom tohto príspevku je analyzovať vývoj národnej značky Slovenskej republiky od vzniku samostatného štátu v roku 1993 až po jej súčasnú podobu „Good Idea Slovakia“, ako aj posúdiť význam jej hlavných komunikačných pilierov. Zároveň sa zameriavame na prepojenie medzi národnou značkou, národnou identitou, krajinou pôvodu a spotrebiteľským etnocentrizmom, ktoré spolu vytvárajú základné východiská pre formovanie vnímania Slovenska v medzinárodnom priestore.

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Národná značka predstavuje strategický nástroj, prostredníctvom ktorého sa štáty usilujú formovať svoje medzinárodné vnímanie a zároveň posilňovať svoju konkurencieschopnosť. Jej základom je súbor cieľavedomých aktivít zameraných na vytvorenie jedinečného a pozitívneho obrazu krajiny v očiach zahraničnej aj domácej verejnosti.

V súčasnosti možno pozorovať rastúci záujem o systematické budovanie národných značiek, pričom mnohé krajiny pristupujú k tomuto procesu ako k integrálnej súčasť svojich rozvojových stratégií. Slovenská republika sa v tomto smere nezaraďuje medzi výnimky, ale naopak, aktívne participuje na formovaní vlastnej národnej identity v medzinárodnom kontexte.

1 Metodika práce

Predmetná štúdia aplikuje kombinovaný výskumný dizajn pozostávajúci z kvalitatívnej analýzy dostupných sekundárnych zdrojov a kvantitatívneho prieskumu verejnej mienky. Kvalitatívna časť zahŕňa analýzu strategických dokumentov, štátnych brandingových materiálov, vedeckých publikácií a medzinárodných indexov (napr. Nation Brands Index, FutureBrand Country Index, Good Country Index), s cieľom identifikovať hlavné črty, hodnoty a komunikačné stratégie národnej značky Slovenska. V praktickej časti práce sme realizovali kvantitatívny prieskum, pričom sme aplikovali metódy dopytovania a obsahovej sumarizácie. Zber údajov sme uskutočnili prostredníctvom dvoch samostatne koncipovaných dotazníkov, ktorými sme získali odpovede a názory od vybranej vzorky respondentov. Teoretické východiská a empirické poznatky sme čerpali predovšetkým z domácej a zahraničnej odbornej literatúry, z dostupných elektronických informačných zdrojov, ako aj z publikovaných vedeckých štúdií a odborných príspevkov prezentovaných v zborníkoch. Pri spracovaní a interpretácii skúmanej problematiky sme aplikovali široké spektrum klasických vedeckovýskumných metód heuristickej povahy, najmä analytické a syntetické prístupy, konkretizáciu, generalizáciu, komparáciu, ako aj prvky induktívneho a deduktívneho uvažovania.

2 Výsledky a diskusia

2.1 Nation branding a etnocentrizmus

Koncept „nation brand“ (značka národa) bol po prvýkrát predstavený Simonom Anholtom v 90. rokoch 20. storočia (Anholt, 1990). Autor týmto pojmom označil reputáciu krajiny, vrátane jej miest a regiónov, ktorú prirovnal k imidžu komerčných značiek alebo produktov. V nadväznosti na túto definíciu možno konštatovať, že národná značka môže výrazne ovplyvňovať hospodársky rozvoj, blahobyť a celkovú prosperitu daného štátu. V roku 2007 Anholt rozšíril svoj teoretický rámec o koncept tzv. „competitive identity“ (konkurenčná identita), ktorú definoval ako formu národnej identity formovanej správaním krajiny na medzinárodnej scéne a jej vzťahmi s globálnou komunitou (Anholt, 2013).

Národná identita predstavuje súbor prvkov, prostredníctvom ktorých sa krajina dokáže odlíšiť od iných národov, pričom zahŕňa jednotlivé aspekty kultúry, histórie, geografického územia, politického a psychologického rozmeru národa (Guibernau, 2007). V súčasnosti definujeme pojem Nation branding ako určitú stratégiu krajiny, ktorá sa snaží sprostredkovať istý obraz o sebe za jej hranicami s cieľom dosiahnuť určité prospešné ciele (Murphy, 2022).

V súčasnej praxi existuje viacero analytických nástrojov určených na kvantifikáciu a hodnotenie národných značiek. Medzi významné patrí FutureBrand Country Index, ktorý bol zavedený v roku 2005 a od tej doby pravidelne hodnotí 75 krajín s najvyšším hrubým domácim produktom (HDP), pričom vychádza z údajov Svetovej banky. Index zohľadňuje 18 kvalitatívnych a percepčných atribútov, ktoré reflektujú spôsob, akým je krajina vnímaná z hľadiska účelového využitia (napr. ako miesto na život, podnikanie či investovanie) a osobnej skúsenosti (napr. návšteva krajiny či interakcia s jej kultúrou) (FutureBrand, 2023).

Ďalším zásadným nástrojom v oblasti merania národnej reputácie je Nation Brands Index (NBI), ktorý vyvinul Simon Anholt v spolupráci so spoločnosťou IPSOS taktiež v roku 2005 - Anholt-Ipsos Nation Brands Index. Tento index sa zameriava na hodnotenie národnej značky prostredníctvom šiestich dimenzií, ktoré spolu tvoria komplexný rámec hodnotenia:

1. Export – percepcia kvality a dôveryhodnosti produktov a služieb pochádzajúcich z danej krajiny,
2. Vláda – hodnotenie verejnosti vo vzťahu k činnosti a integrite vládnych inštitúcií,
3. Kultúra a dedičstvo – medzinárodné vnímanie kultúrnej identity, umenia a historického dedičstva,
4. Obyvatelia – reputácia občanov z hľadiska priateľskosti, otvorenosti a pohostinnosti,
5. Turizmus – atraktivita krajiny ako destinácie cestovného ruchu,
6. Imigrácia a investície – vnímaná schopnosť krajiny prilákať talent, pracovnú silu a zahraničný kapitál (Murphy, 2022).

Index „The Good Country“, známy aj ako Index dobrej krajiny, bol vyvinutý Simonom Anholtom v roku 2014 ako nástroj na hodnotenie miery prínosu jednotlivých štátov k spoločnému globálnemu dobru. Základným princípom tohto indexu je porovnávanie toho, čo krajina „dáva“ svetu a čo „berie“, a to vo vzťahu k svojej veľkosti a hospodárskej sile. Na rozdiel od tradičných hodnotení, ktoré sa zameriavajú na vnútroštátnu politiku a rozvoj, The Good Country Index skúma primárne externé vplyvy a prínos krajiny pre medzinárodné spoločenstvo (The Good Country, 2024).

V tejto súvislosti je potrebné poukázať na prepojenie medzi Nation brandingom, konkrétne národnou identitou, a fenoménom krajiny pôvodu a etnocentrizmu. Krajina pôvodu produktu alebo služby zohráva významnú rolu pri formovaní spotrebiteľského správania, pričom môže výrazne ovplyvniť vnímanie kvality, dôveryhodnosti či hodnoty daného produktu.

Etnocentrizmus možno definovať ako kognitívny a hodnotový postoj, pri ktorom jednotlivci považujú vlastnú etnickú skupinu či kultúru za nadradenú iným a predpokladajú, že jej normy a hodnoty sú univerzálne aplikovateľné (Hooghe, 2008). Jednou zo špecifických foriem etnocentrizmu je spotrebiteľský etnocentrizmus, ktorý označuje presvedčenie, že domáce produkty sú lepšie než tie zahraničné, a ich uprednostňovanie je zároveň morálnou a ekonomickou povinnosťou. Z tohto pohľadu sú produkty vyrobené v zahraničí vnímané ako potenciálne škodlivé pre domácu ekonomiku, čo vedie k ich odmietaniu bez ohľadu na ich objektívne vlastnosti (Alsughayir, 2013).

Tieto koncepty – Nation branding, krajina pôvodu a spotrebiteľský etnocentrizmus – sú vzájomne prepojené a tvoria dôležité determinanty pri formovaní postojov verejnosti a správania spotrebiteľov v globálnom hospodárskom priestore.

2.2 Národná značka „Good Idea Slovakia“

Vývoj národnej značky Slovenskej republiky od jej vzniku v roku 1993 prešiel dynamic-kým procesom, ktorý reflektuje meniace sa strategické a komunikačné priority štátu v oblasti prezentácie na domácej i medzinárodnej úrovni. Od založenia prvej štátnej agentúry zame-ranej na podporu cestovného ruchu sa iniciatívy v oblasti budovania národnej značky po-stupne transformovali až do súčasnej podoby. Hlavným cieľom od počiatku bolo vytvoriť identitu, ktorá by autenticky reprezentovala Slovensko ako atraktívnu, dôveryhodnú a kon-kurencieschopnú krajinu nielen vo vnútri, ale aj v zahraničí.

V roku 2016 bola predstavená súčasná verzia národnej značky pod názvom „Good Idea Slovakia“, ktorá vychádza zo strategickej vízie komunikačného rámca založeného na štyroch základných pilieroch: vitalita, svojráznosť, rozmanitosť a vynachádzavosť. Tieto piliere boli konkretizované prostredníctvom desiatich nosných posolstiev značky, ktoré sprostredkujú verejnosti i medzinárodnému publiku obraz Slovenska ako krajiny s jedinečnými hodnotami a charakterom (Branding Slovenska, 2013):

1. Autentickosť – Slovensko by malo vystupovať sebavedome a hrdo, akcentujúc pri-rodenosť a pôvodné kultúrne a spoločenské hodnoty.
2. Emocionálnosť – emocionálne založenie obyvateľstva je vnímané ako súčasť ná-rodnej identity, ktorú netreba potláčať, ale naopak autenticky komunikovať.
3. Folklorná identita – dôraz na regionálnu rozmanitosť a unikátnosť folklóru ako sú-časti kultúrneho dedičstva.
4. Kontrastnosť na malom území – Slovensko ponúka vysoký stupeň geografickej, kultúrnej a spoločenskej rozmanitosti v kompaktnom priestore.
5. Geopolitický priesečník – vďaka svojej polohe zohráva Slovensko rolu spojovacieho článku medzi rôznymi kultúrnymi a civilizačnými okruhmi.
6. Dynamika rozvoja – mladý štát sa dynamicky rozvíja, čo je prejavom vitality a am-bície na medzinárodnej scéne.
7. Adaptabilita – schopnosť pružne reagovať na zmeny a integrovať sa do širších cel-kov, ako je napríklad Európska únia.
8. Inovatívnosť – dôraz na technológie, tvorivosť a tradíciu vynálezcov a kreatívnych odborníkov.
9. Zručnosť obyvateľstva – obyvatelia sú vnímaní ako pracovití, praktickí a šikovní, čo je významný prvok pozitívneho národného imidžu.
10. Ambicióznosť – napriek malej rozlohe je Slovensko krajina s vysokou mierou ambí-cie a snahy o globálne uplatnenie.

Národná značka „Good Idea Slovakia“ tak predstavuje integrovaný nástroj verejnej dip-lomacie a strategického marketingu, ktorého cieľom je posilniť reputáciu Slovenska, podpo-riť jeho konkurencieschopnosť a zároveň sprostredkovať svetu konzistentný obraz krajiny postavenej na autentickosti a inovatívnosti.

Obrázok 1: Základné varianty logo typu



Zdroj: Creative Department, 2016

Každé logo je definované aj prostredníctvom ochrannej zóny, ktorá predstavuje priestor v jeho bezprostrednom okolí, do ktorého nesmú zasahovať žiadne textové ani grafické prvky. Účelom tejto zóny je zabezpečiť vizuálnu integritu a čitateľnosť loga, ako aj eliminovať rušivé vplyvy okolitého dizajnu.

Národná značka Slovenskej republiky prešla významným vývojom od čias vzniku prvej inštitúcie zameranej na propagáciu cestovného ruchu až po jej súčasnú formu a vizuálnu identitu. Od prvotných úvah o potrebe reprezentatívnej národnej značky sa zainteresovaní aktéri usilovali o vytvorenie identity, ktorá by Slovensko adekvátne prezentovala nielen na domácej scéne, ale aj v medzinárodnom kontexte. Aktuálna verzia značky pod názvom „Good Idea Slovakia“ bola oficiálne predstavená v roku 2016 a nesie v sebe základné komunikačné posolstvá, ako sú autenticita, emocionalita a schopnosť adaptácie.

2.3 Prieskum pre slovenských a zahraničných respondentov

Kvantitatívna časť výskumu bola realizovaná formou dvoch samostatných online dotazníkov distribuovaných prostredníctvom platformy Google Forms. Zber dát prebiehal v období od 20. októbra do 20. novembra 2023. Prvý dotazník bol zameraný na obyvateľov Slovenskej republiky a obsahoval celkovo 27 otázok, z čoho 25 bolo uzatvorených (povinných) a 2 otvorené (dobrovoľné). Druhý dotazník bol určený pre respondentov zo zahraničia a bol vypracovaný v anglickom jazyku; obsahoval 28 otázok, z toho 23 uzatvorených a 5 otvorených. Dotazníka pre občanov Slovenskej republiky sa celkovo zúčastnilo 104 respondentov, z toho 33 mužov, čo predstavuje 31,7% a 71 žien, čo predstavuje 68,3%. Dotazníka pre cudzincov sa zúčastnilo 51 respondentov, z toho 26 mužov, čo predstavuje 51% a 24 žien, čo predstavuje 47,1% a jeden respondent označil v odpovedi iné – nebinárny, čo predstavuje 2%. Respondenti boli z rôznych krajín napríklad Rakúsko, Nemecko a Česká republika, Maďarsko, Veľká Británia Kanada, Taliansko, Austrália Poľsko a Švédsko a nižšie zastúpenie mali respondenti z Afganistanu, Azerbajdžanu, Bulharska, Španielska, Grécka, Kazachstanu, Holandska a Ruska.

Cieľom prieskumu bolo identifikovať úroveň povedomia o národnej značke Slovenska medzi domácimi a zahraničnými respondentmi. Prieskum bol súčasťou širšieho výskumu spotrebiteľského správania naprieč generáciami, avšak pre účely tejto štúdie boli vybrané iba tie položky, ktoré súvisia s problematikou povedomia o národnej značke

V rámci prieskumu sme si položili niekoľko otázok, z ktorých vyberáme dve základné otázky:

- ✓ **Otázka č. 1:** Predpokladá sa, že povedomie o národnej značke Slovenska je vyššie u obyvateľov Slovenska než u cudzincov.
- ✓ **Otázka č. 2:** Predpokladá sa, že internet je najčastejším komunikačným kanálom, prostredníctvom ktorého respondenti vnímajú národnú značku.

Z realizovaného prieskumu sme selektovali len tie formulácie otázok a odpovedí, ktoré vykazujú bezprostrednú relevanciu k analyzovanej problematike v rámci predkladaného príspevku. S ohľadom na charakter a rozsah výberovej vzorky považujeme výsledky prieskumu za orientačné a limitované z hľadiska ich všeobecnej platnosti.

V rámci príspevku sú odpovede slovenských respondentov označené veľkým písmenom A, odpovede respondentov zo zahraničia veľkým písmenom B. Otázky a odpovede sú prezentované vo forme grafov, pričom sú usporiadané tak, aby umožňovali okamžité a prehľadné porovnanie názorov domácich a zahraničných účastníkov prieskumu.

V úvode danej sekcie sme požiadali slovenských aj zahraničných respondentov, aby si pred vyplňaním tejto sekcie pozreli oficiálne video, aby dokázali odpovedať na nasledujúce otázky.

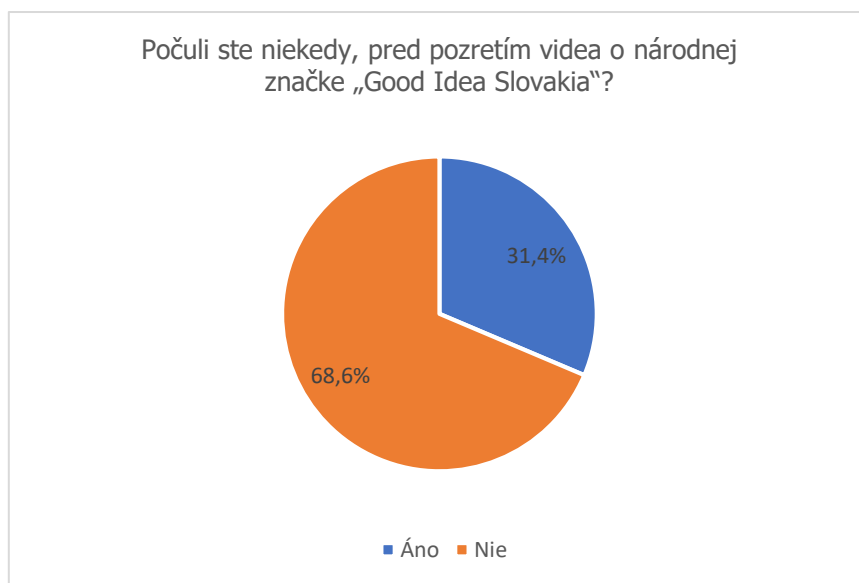
Graf 1.A. Stretli ste sa niekedy pred pozretím videa s národnou značkou „Good Idea Slovakia“ (<https://www.youtube.com/watch?v=ITiNU7vXDwo>)



zdroj: Koiš, Korčoková 2023

Na základe vyššie uvedeného grafu môžeme pozorovať, že nadpolovičná väčšina respondentov 56,7% sa už niekedy stretla s aktuálnou národnou značkou. Zvyšných 43,3% sa do pozretia oficiálneho videa nestretla so slovenskou národnou značkou.

Graf 1.B. Stretli ste sa niekedy pred pozretím videa s národnou značkou „Good Idea Slovakia“ (<https://www.youtube.com/watch?v=1v7tLUIUBro>)



zdroj: Koiš, Korčoková 2023

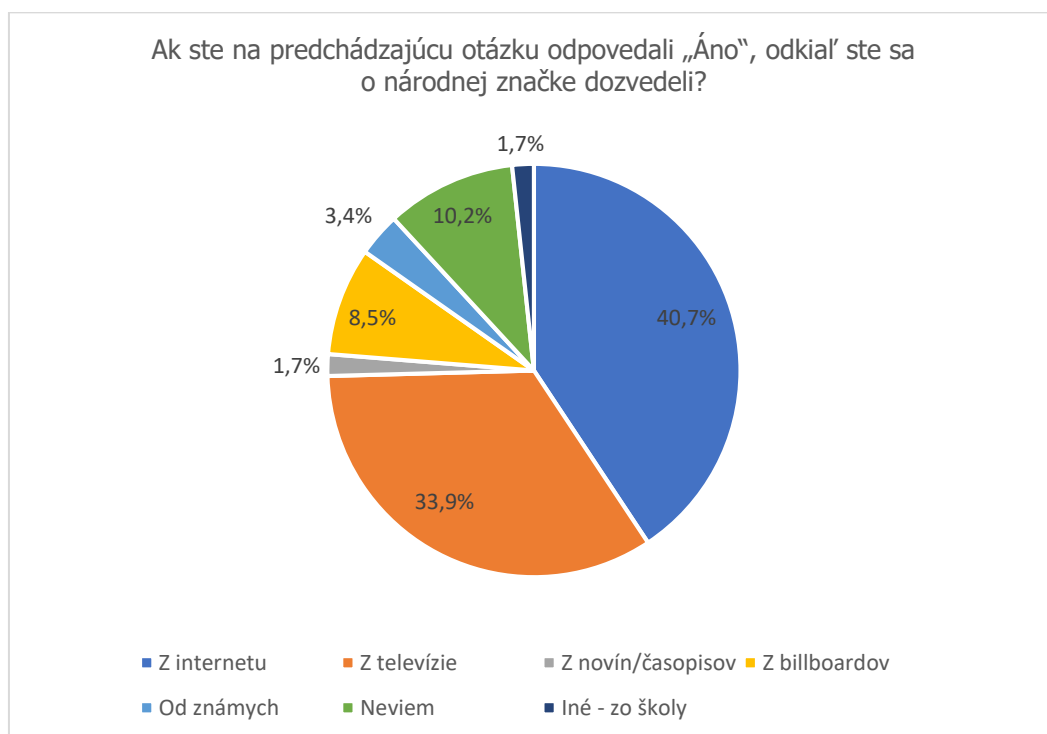
Na základe vyššie uvedeného grafu môžeme vidieť, že 31,4% zahraničných respondentov niekedy počulo o slovenskej národnej značke a až 68,6% respondentov o tejto značke nikdy nepočulo.

Výsledky prieskumu poukazujú na rozdielnu mieru známosti slovenskej národnej značky medzi domácimi a zahraničnými respondentmi. Nadpolovičná väčšina slovenských respondentov (56,7 %) uviedla, že sa už niekedy stretla s národnou značkou Slovenska, čo naznačuje určitú mieru povedomia a prítomnosti značky v domácom informačnom priestore. Naproti tomu 43,3 % respondentov sa so značkou stretlo až po zahliadnutí oficiálneho videa, čo poukazuje na priestor na zlepšenie jej viditeľnosti a komunikácie.

Zahraniční respondenti vykazujú výrazne nižšiu mieru povedomia – len 31,4 % uviedlo, že niekedy počuli o slovenskej národnej značke, zatiaľ čo až 68,6 % deklarovalo úplnú neznalosť značky. Tieto výsledky poukazujú na slabú medzinárodnú prítomnosť značky „Good Idea Slovakia“ a naznačujú potrebu cielenej a efektívnejšej komunikačnej stratégie smerom k zahraničnému publiku.

Zistenia naznačujú, že hoci národná značka rezonuje do určitej miery v domácom prostredí, jej globálna viditeľnosť je obmedzená, čo predstavuje výzvu pre jej ďalšie formovanie a propagáciu na medzinárodnej úrovni.

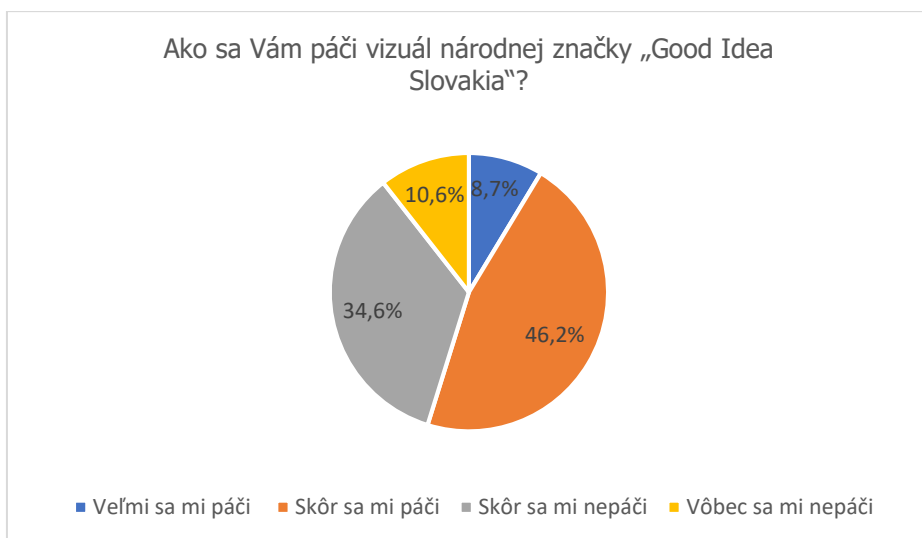
Graf 2.A Ak ste na predchádzajúcu otázku odpovedali „Áno“, odkiaľ ste sa o národnej značke dozvedeli?



zdroj: Koiš, Korčoková 2023

Z výsledkov grafického znázornenia je zrejmé, že najvyšší podiel respondentov – konkrétne 40,7 % sa s národnou značkou *Good Idea Slovakia* stretol prostredníctvom internetu. Respondenti najčastejšie uvádzali, že značku zaznamenali vo forme reklamného spotu, ktorý sa zobrazoval pred prehrávaním videí na platforme YouTube. Druhou najčastejšie uvádzanou možnosťou bola televízia, kde národnú značku registrovalo 33,9 % respondentov. Reklamná kampaň v tomto médiu bola realizovaná najmä prostredníctvom slovenských komerčných televízií počas vysielania zimných športových podujatí, pričom významnou tvárou kampane bola ambasádorka značky Petra Vlhová (Targetnews, 2019). Tretia najčastejšia odpoveď bola „Neviem“, ktorú uviedlo 10,2 % respondentov, čo poukazuje na určitú mieru nevedomej alebo neidentifikovanej expozície voči značke. Ďalších 8,5 % respondentov uviedlo, že sa so značkou stretli prostredníctvom vonkajšej reklamy – najmä na billboardoch, ktoré sú umiestnené napríklad na zastávkach mestskej hromadnej dopravy v Bratislave. Menšie percento respondentov 3,4% uviedlo, že o značke sa dozvedeli prostredníctvom známych. Výnimočne sa značka objavila aj v odpovediach týkajúcich sa tlačенých médií (noviny/časopisy) a školského prostredia, pričom v oboch prípadoch ju spomenul jeden respondent.

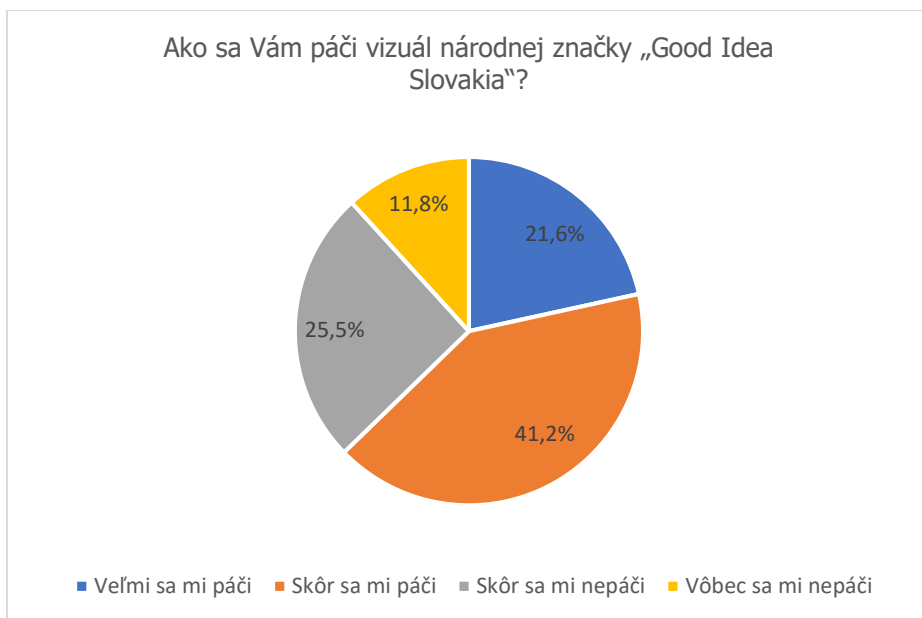
Graf 3.A Ako sa Vám páči vizuál národnej značky „Good Idea Slovakia“?



zdroj: Koiš, Korčoková 2023

Z odpovedí slovenských respondentov je zrejmé, že väčšiemu počtu sa vizuál súčasnej národnej značky páči 54,9%, pričom 34,6% respondentom sa národná značka skôr nepáči a 10,6% sa značka vôbec nepáči.

Graf 3.B. Ako sa Vám páči vizuál národnej značky „Good Idea Slovakia“?



zdroj: Koiš, Korčoková 2023

Z grafu vyplýva, že 21,6 % zahraničných respondentov vníma vizuálnu identitu národnej značky Slovenskej republiky ako veľmi atraktívnu, pričom ďalších 41,2 % ju hodnotí skôr pozitívne. Naopak, 25,5 % respondentov uviedlo, že sa im vizuál skôr nepáči, a 11,8 % ho označilo za úplne neatraktívny.

Z výsledkov prieskumu vyplýva, že vizuálna identita súčasnej národnej značky Slovenskej republiky je vnímaná prevažne pozitívne, a to ako medzi slovenskými, tak aj medzi zahraničnými respondentmi, hoci s určitými rozdielmi v miere priazne. Medzi slovenskými respondentmi označilo 54,9 % vizuálnu podobu značky za atraktívnu. Naopak, 34,6 % ju hodnotilo skôr negatívne a 10,6 % ju vníma vyslovene odmietavo. Tieto výsledky naznačujú, že hoci prevláda pozitívne hodnotenie, takmer polovica opýtaných vykazuje istý stupeň nespokojnosti, čo môže indikovať potrebu reflexie dizajnových aspektov národnej identity. Zahraniční respondenti hodnotili vizuálnu identitu o niečo opatrnejšie. Iba 21,6 % ju považuje za veľmi atraktívnu, pričom 41,2 % ju označuje za skôr pozitívnu, čo spolu predstavuje 62,8 % kladne naladených respondentov. Avšak 37,3 % zahraničných respondentov sa vyjadrilo kriticky – 25,5 % ju označilo za skôr neatraktívnu a 11,8 % za úplne neatraktívnu.

Tieto zistenia poukazujú na to, že **vizuálna identita národnej značky má síce potenciál na pozitívne vnímanie, avšak zároveň čelí významnej miere kritiky**, a to najmä v zahraničnom kontexte. Z hľadiska komunikačnej stratégie Slovenskej republiky je preto žiaduce zvážiť **revíziu alebo optimalizáciu vizuálnych prvkov národnej značky** s cieľom zvýšiť jej estetickú presvedčivosť a zrozumiteľnosť pre medzinárodné publikum.

4.A. Ako sa Vám páči slogan „Good Idea Slovakia“?



zdroj: Koiš, Korčoková 2023

Výsledky dotazníkového prieskumu ukazujú, že viac ako dve tretiny opýtaných respondentov zo Slovenska hodnotia slogan národnej značky pozitívne. Konkrétne 25% respondentov uviedlo, že sa im slogan *veľmi páči*, a ďalších 44,2% respondentov ho označilo ako

skôr pozitívny. Naopak, 26% respondentov vyjadrilo, že sa im slogan *skôr nepáči*, a len 4,8% respondentov uviedlo, že sa im *vôbec nepáči*.

Graf 4.B. Ako sa Vám páči slogan „Good Idea Slovakia“?



zdroj: Koiš, Korčoková 2023

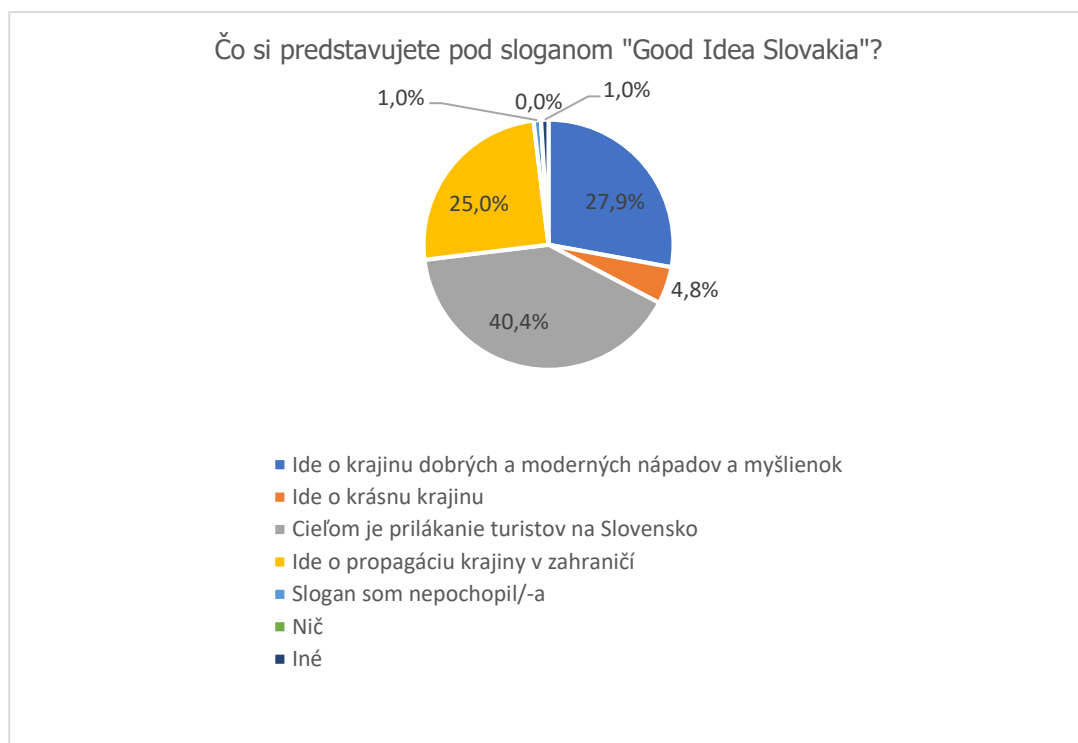
Z odpovedí zahraničných respondentov vyplýva, že slogan „*Good Idea Slovakia*“ je vnímaný prevažne pozitívne, hoci názory sú pomerne rozdelené. Celkovo 21,6 % respondentov uviedlo, že sa im slogan *veľmi páči*, a 33,3 % ho hodnotilo ako *skôr pozitívny*. Rovnaký podiel respondentov 33,3 % vyjadril miernu nespokojnosť so sloganom, pričom 11,8 % opýtaných deklarovalo, že sa im *vôbec nepáči*.

Analýza výsledkov dotazníkového prieskumu ukazuje, že národný slogan „*Good Idea Slovakia*“ je vnímaný prevažne pozitívne medzi respondentmi zo Slovenska aj zo zahraničia, avšak s určitými rozdielmi v intenzite hodnotenia. Medzi slovenskými respondentmi viac ako dve tretiny 69,2 % hodnotia slogan pozitívne, pričom 25 % ho považuje za veľmi príťažlivý a 44,2 % za skôr pozitívny. Naopak, negatívny názor vyjadrilo približne tretina opýtaných 30,8 %, z čoho len necelých 5 % hodnotí slogan jednoznačne negatívne.

Medzinárodné hodnotenie sloganu je mierne rozdelené, no stále dominujú pozitívne reakcie – 54,9 % respondentov označilo slogan za veľmi alebo skôr pozitívny. Naproti tomu, výraznejšia časť zahraničných respondentov 45,1 % vyjadrila miernu alebo výraznú nespokojnosť so sloganom, pričom takmer 12 % ho hodnotilo ako vôbec nepáčiaci sa.

Tieto výsledky naznačujú, že národný slogan má silný pozitívny ohlas medzi domácou populáciou, zatiaľ čo zahraničné publikum ho vníma s väčšou rezervou a polarizáciou názorov. Pri ďalšom rozvoji a propagácii značky by bolo vhodné zohľadniť odlišné percepcie cieľových skupín a zvážiť prípadné úpravy alebo doplnkové komunikácie pre zahraničný trh.

Graf 5.A. Čo si predstavujete pod týmto sloganom „Good Idea Slovakia“?



zdroj: Koiš, Korčoková 2023

Z vyššie uvedeného grafu môžeme vidieť, že najviac slovenských respondentov 40,4% si myslí, že cieľom tejto národnej značky je prilákanie turistov na Slovensko. Druhou najväčšou skupinou sú práve respondenti 27,9%, ktorí vidia význam národnej značky v tom, že Slovensko je krajina dobrých a moderných nápadov a myšlienok. 25% respondentov si pod danou značkou predstavuje propagáciu krajiny v zahraničí a 4,8% si pod sloganom predstavuje krásnu krajinu.

Graf 5.B. Čo si predstavujete pod týmto sloganom „Good Idea Slovakia“?

Až 29.15% zahraničných respondentov vidí za touto kampaňou primárne prilákanie turistov na Slovensko. Podobné percento 25.49% respondentov si myslí, že cieľom značky je propagácia Slovenska v zahraničí. 19.61% respondentov si pod sloganom predstavuje krajinu dobrých a moderných nápadov a myšlienok a len 9.80% respondentov je toho názoru, že slogan znázorňuje Slovensko ako krásnu krajinu. Dôležité je tiež zhodnotiť, že 9,80% respondentov označilo odpoveď „Neviem“ a 5.88% respondentov si pod sloganom nič nepredstavujú.

Na základe získaných údajov možno konštatovať, že slogan „Good Idea Slovakia“ je vnímaný primárne ako nástroj na podporu cestovného ruchu. Tento význam dominuje u

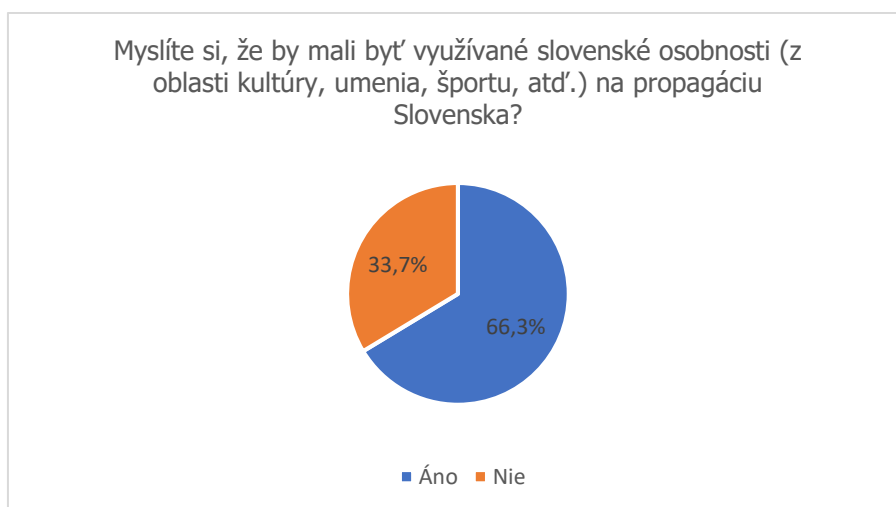
oboch skupín respondentov – 40,4 % slovenských a 29,15 % zahraničných účastníkov prieskumu považuje prilákanie turistov za hlavný cieľ národnej značky. Slovenskí respondenti výraznejšie vnímajú slogan ako vyjadrenie kreativity a inovatívnosti krajiny 27,9 %, zatiaľ čo zahraniční respondenti častejšie spájali značku s propagáciou Slovenska v zahraničí 25,49 %. To naznačuje rozdielne interpretácie podľa geografického a kultúrneho kontextu, čo je dôležité zohľadniť pri budúcej komunikácii značky.

Za zmienku stojí aj nízke percento respondentov, ktorí si pod sloganom predstavujú Slovensko ako krásnu krajinu (Slováci 4,8 %, zahraniční 9,8 %), čo poukazuje na slabšie prepojenie kampane s estetickými či prírodnými kvalitami Slovenska. Rovnako tak relatívne vysoký podiel nerozhodnutých respondentov („neviem“ a „nič si nepredstavujem“ spolu 15,68 % u zahraničných) signalizuje potrebu zlepšiť zrozumiteľnosť a obsahovú výpoveď sloganu. Bolo by vhodné zvýšiť zrozumiteľnosť sloganu prostredníctvom doplňujúcich vysvetľujúcich materiálov, prípadne interaktívnych kampaní, ktoré uľahčia pochopenie významu značky.

Zintenzívniť vizuálnu a naratívnu komunikáciu, ktorá bude cielene prepájať Slovensko s jeho prírodnou krásou a jedinečnou krajinou.

Prispôbiť komunikačné stratégie podľa cieľovej skupiny – domáci obyvatelia preferujú inovatívnosť, zatiaľ čo zahraniční respondenti vnímajú značku cez optiku propagácie a turizmu.

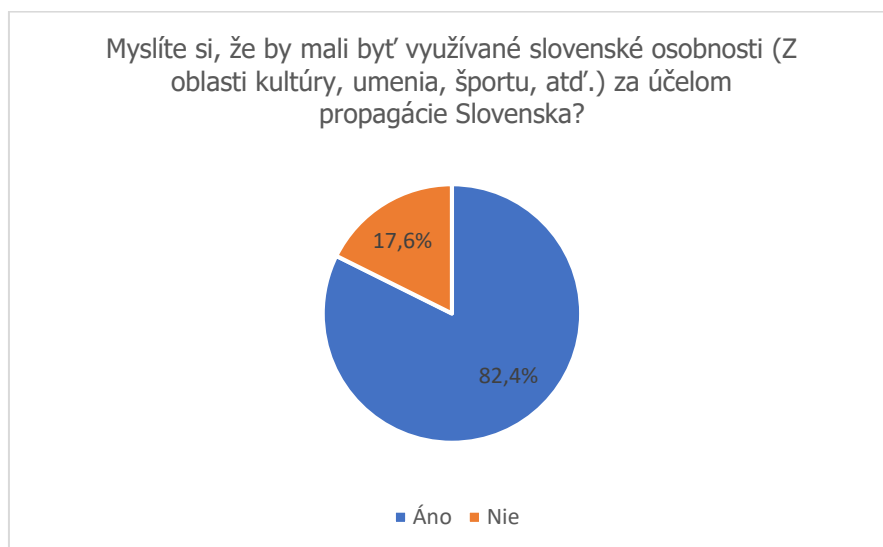
Graf 6.A. Myslíte si, že by mali byť využívané slovenské osobnosti (z oblasti kultúry, umenia, športu, atď.) za účelom propagácie Slovenska?



zdroj: Koiš, Korčoková 2023

66,3% opýtaných slovenských respondentov si myslí, že by mali byť využívané osobnosti na propagáciu a len 33,7% respondentov to nepovažuje za potrebné.

Graf 6.B. Myslíte si, že by mali byť využívané slovenské osobnosti (Z oblasti kultúry, umenia, športu, atď.) za účelom propagácie Slovenska?



zdroj: Koiš, Korčoková 2023

Na základe grafu vidíme, že viac ako 80% zahraničných respondentov považuje za potrebné využívanie slovenských osobností na propagáciu krajiny a len 17,6% respondentov to nepovažuje za potrebné.

Výsledky prieskumu potvrdzujú, že väčšina respondentov – tak zo Slovenska, ako aj zo zahraničia – vníma využívanie slovenských osobností ako efektívny nástroj na propagáciu krajiny. Až 66,3 % slovenských respondentov zastáva názor, že známe osobnosti by mali byť aktívne zapájané do komunikačných a marketingových stratégií štátu. Naopak, len 33,7 % slovenských respondentov tento prístup nepovažuje za potrebný.

Ešte výraznejšia podpora tohto prístupu bola zaznamenaná u zahraničných respondentov, kde až viac ako 80 % opýtaných súhlasilo s využívaním osobností pri propagácii Slovenska. Nesúhlas vyjadrilo iba 17,6 % z nich.

Tieto zistenia poukazujú na širokú spoločenskú akceptáciu tzv. personifikovanej formy národnej propagácie, pri ktorej zohrávajú verejne známe osobnosti (napr. umelci, športovci, vedci) úlohu ambasádorov krajiny. Výsledky zároveň naznačujú, že zahraničné publikum ešte vo väčšej miere očakáva personálne zastúpenie identity krajiny, čo môže byť významným faktorom pri formovaní marketingových stratégií zameraných na externé trhy.

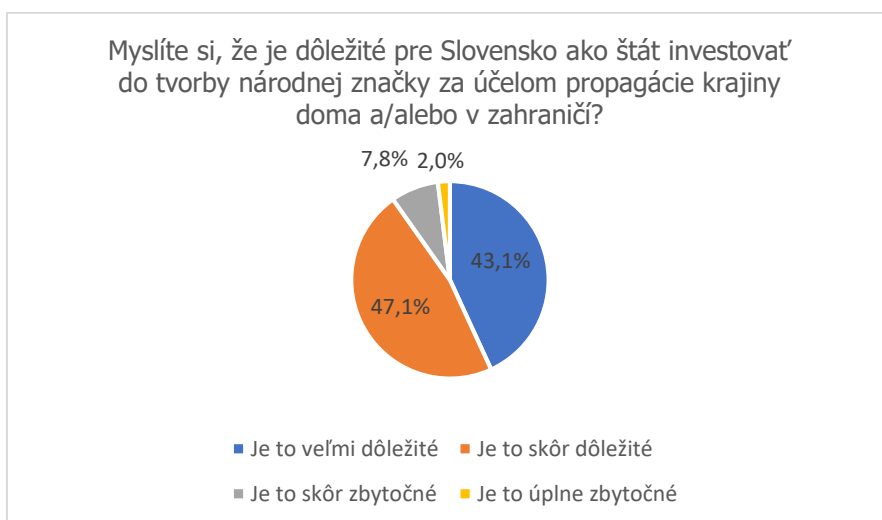
7.A Myslíte si, že je dôležité pre Slovensko ako štát, investovať do tvorby národnej značky za účelom propagácie krajiny doma a v zahraničí?



zdroj: Koiš, Korčoková 2023

Drvivá väčšina opýtaných slovenských respondentov 96,2% vidí potrebu a predovšetkým dôležitosť investície do národnej značky práve za účelom propagácie krajiny. Len 3,8% respondentov považujú túto činnosť za skôr zbytočnú a je dôležité poznamenať, že poslednú odpoveď „Je to úplne zbytočné“ nezvolil ani jeden respondent.

7.B Myslíte si, že je dôležité pre Slovensko ako štát, investovať do tvorby národnej značky za účelom propagácie krajiny doma a v zahraničí?



zdroj: Koiš, Korčoková 2023

Na základe získaných údajov možno opätovne konštatovať, že respondenti z radov cudzincov vnímajú potrebu investovania do budovania národnej značky ako významnú. Až 43,1 % z nich označilo túto oblasť za „veľmi dôležitú“ a ďalších 47,1 % ju považuje za „skôr dôležitú“. Naopak, len 7,8 % respondentov označilo investovanie do národnej značky za „skôr zbytočné“ a iba 2 % za „úplne zbytočné“. Tieto výsledky poukazujú na prevládajúci pozitívny postoj k významu národnej značky zo strany zahraničných účastníkov prieskumu.

Analýza získaných údajov jednoznačne potvrdzuje vysokú mieru spoločenského konsenzu o dôležitosti investícií do budovania národnej značky Slovenska. Až 96,2 % slovenských respondentov označilo túto oblasť za potrebnú, pričom ju vnímajú predovšetkým ako nástroj na efektívnu propagáciu krajiny. Za pozoruhodný fakt možno považovať, že nikto zo slovenských respondentov neoznačil budovanie národnej značky za úplne zbytočné, čo svedčí o takmer jednohlasnej podpore tejto iniciatívy v domácom prostredí.

Podobný postoj bol zaznamenaný aj u zahraničných respondentov, kde až 43,1 % opýtaných považuje investície do národnej značky za „veľmi dôležité“ a ďalších 47,1 % ich označuje za „skôr dôležité“. Naopak, len 9,8 % (7,8 % + 2 %) zahraničných respondentov vníma túto oblasť ako málo prínosnú alebo zbytočnú.

Tieto výsledky poukazujú na jasne pozitívne vnímanie budovania národnej značky u oboch cieľových skupín – domácich aj zahraničných respondentov. Výrazná prevaha respondentov, ktorí považujú túto oblasť za dôležitú, potvrdzuje, že investovanie do systematickej a strategickej komunikácie národnej identity je vnímané ako opodstatnené a spoločensky relevantné. Tieto zistenia poskytujú silnú argumentačnú bázu pre ďalší rozvoj značky Slovenska v medzinárodnom kontexte.

2.4 Zhodnotenie prieskumov

Prieskum bol zameraný najmä na identifikáciu miery povedomia o národnej značke u domácich a zahraničných respondentov. Analýza získaná prostredníctvom dotazníkových prieskumov naznačuje, že povedomie o národnej značke Slovenska je nedostatočné. Kým na domácom trhu prevažuje relatívne vysoká úroveň povedomia, v zahraničných prostrediach je táto úroveň výrazne nižšia. Výsledky zároveň ukazujú, že významná časť respondentov vníma investície do rozvoja národnej značky ako kľúčový faktor, pričom súčasný objem týchto investícií hodnotia ako nedostatočný. Respondenti tiež zdôrazňujú potrebu zapojenia slovenských osobností do propagácie krajiny a jej značky, pričom za najvhodnejšie považujú osobnosti zo sféry športu, politiky a kultúry (herectva). Pred realizáciou empirického výskumu sme formulovali výskumné otázky VO, ktoré boli prepojené na cieľ prieskumu a na ktoré bolo možné odpovedať na základe získaných dát.

VO č. 1: Predpokladáme, že povedomie o národnej značke Slovenska je vyššie u domácich obyvateľov v porovnaní so zahraničnými respondentmi.

Na základe získaných dát môžeme tento predpoklad potvrdiť. Väčšina respondentov zo Slovenska uviedla, že poznajú národnú značku, zatiaľ čo približne dve tretiny zahraničných respondentov ju nepoznali. Tento výsledok korešponduje s naším očakávaním, keďže súčasná propagácia značky v zahraničí je podľa nášho názoru nedostatočná.

VO č. 2: Predpokladáme, že respondenti sa s národnou značkou najčastejšie stretávajú prostredníctvom internetu. Táto otázka bola rovnako potvrdená. Respondenti uviedli internet ako najčastejší kanál, kde

sa s národnou značkou stretli, najmä prostredníctvom platených reklám na sociálnych sieťach a článkov o národných kampaniach.

Záverom možno konštatovať, že zatiaľ čo slogan „Good Idea Slovakia“ spĺňa niektoré požiadavky efektívnej značkovej komunikácie, jeho súčasné vnímanie medzi zahraničným publikom odhaľuje priestor na jeho posilnenie. V budúcnosti by mohla byť prínosná kvalitatívna analýza reakcií na slogan (napr. formou hlbších rozhovorov či zoskupení podľa kultúrneho zázemia), ktorá by poskytla hlbší náhľad do jeho interpretácie a potenciálu v budovaní medzinárodného imidžu Slovenska.

Záver

Na základe realizácie dvoch dotazníkových prieskumov, ktoré boli zamerané nielen na obyvateľov Slovenska, ale aj na zahraničných respondentov, možno konštatovať, že povedomie o národnej značke „Good Idea Slovakia“ je najmä medzi cudzincami nedostatočné. Zistenia zároveň poukazujú na nízku efektivitu súčasnej prezentácie značky a signalizujú značný priestor na jej zlepšenie. Na základe výsledkov prieskumu navrhujeme nasledovné odporúčania:

Posilnenie marketingovej komunikácie - kľúčovým predpokladom pre budovanie značky a jej vnímania verejnosťou je kvalitná, konzistentná a vizuálne atraktívna marketingová komunikácia. Odporúčame zvýšiť frekvenciu a efektivitu komunikácie národnej značky, a to najmä prostredníctvom cieľenej prezentácie v interiéri i exteriéri. Zintenzívniť vizuálnu a naratívnu komunikáciu, ktorá bude cielene prepájať Slovensko s jeho prírodnou krásou a jedinečnou krajinou.

Prispôbiť komunikačné stratégie podľa cieľovej skupiny – domáci obyvatelia preferujú inovatívnosť, zatiaľ čo zahraniční respondenti vnímajú značku cez optiku propagácie a turizmu.

Ďalej odporúčame zefektívnenie prezentácie na sociálnych sieťach. Hoci značka v súčasnosti využíva platené kampane na platformách ako Facebook či Instagram, ich dosah a účinnosť sa ukazujú ako nedostatočné. Navrhujeme rozšírenie a lepšie zacielenie týchto kampaní, ako aj využitie nových foriem digitálneho marketingu (napr. spolupráca s influencerami, tvorba virálneho obsahu).

Využitie exteriérových (OOH) reklamných plôch - významný priestor pre zvyšovanie povedomia o značke sa nachádza v oblasti vonkajšej reklamy (OOH – Out Of Home). Odporúčame strategické umiestňovanie propagačných materiálov v blízkosti turistických atrakcií, kultúrnych pamiatok, hradov a zámkov, kde dochádza k vysokej frekvencii domácich i zahraničných návštevníkov.

Vzdelávanie - za kľúčový aspekt efektívneho budovania a udržiavania národnej značky považujeme pravidelné vzdelávanie a školenia osôb, ktoré s touto značkou prichádzajú do priameho kontaktu. Ide najmä o zamestnancov štátnych inštitúcií, ako sú ministerstvá, veľvyslanectvá, konzulárne úrady a podobne. Cieľom týchto školení by mala byť najmä štandardizácia prístupu k používaniu vizuálnych a obsahových prvkov národnej značky, vrátane jednotného používania sloganu a loga na oficiálnych materiáloch.

Zároveň poukazujeme na význam systematického budovania povedomia o národnej značke už od raného veku. Odporúčame implementáciu tematického obsahu do vyučovacích predmetov, ako sú občianska náuka, etická výchova či dejepis. Tieto predmety vytvárajú priestor pre diskusie a reflexiu, ktoré môžu prispieť k formovaniu pozitívneho vzťahu mladých ľudí k národnej značke.

generácie k vlastnej krajine a jej medzinárodnej prezentácii prostredníctvom národnej značky.

Systematickým a dôsledne koordinovaným prístupom k prezentácii značky *Good Idea Slovakia* je možné zásadne zlepšiť jej vnímanie doma aj v zahraničí a prispieť tak k budovaniu pozitívneho obrazu Slovenska ako atraktívnej destinácie.

Budovanie národných značiek je dôležitou súčasťou strategickej komunikácie každej krajiny, ktorá sa usiluje o formovanie pozitívneho obrazu nielen na domácej, ale aj na medzinárodnej úrovni. Národná značka predstavuje koordinovaný súbor aktivít, ktoré majú za cieľ podporiť vnímanie krajiny ako dôveryhodného, atraktívneho a inovatívneho partnera v rôznych oblastiach – od cestovného ruchu, cez kultúru, až po podnikateľské prostredie. Slovenská republika sa do tohto procesu zapája prostredníctvom vlastnej národnej značky *Good Idea Slovakia*, ktorá je aktívne využívaná už niekoľko rokov. Hoci ide o menšiu krajinu, ktorej meno nie je automaticky známe vo všetkých kútoch sveta, Slovensko disponuje jedinečnými hodnotami, prírodným a kultúrnym bohatstvom, ako aj inovačným potenciálom, ktoré môžu byť atraktívne pre široké spektrum cieľových skupín. Z tohto dôvodu je nevyhnutné pokračovať v systematickom rozvoji národnej značky, zvyšovať jej viditeľnosť a najmä posilňovať jej povedomie doma i v zahraničí prostredníctvom premyslenej a efektívnej komunikačnej stratégie.

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Impact of Health Programs in Companies on Employees' Well-being

Natália Pozsonyiová¹

Abstract

Nowadays, the issue of employee satisfaction is becoming a very important and monitored topic, as several employers and also the society have realized that employee health can have a very significant impact on the company and even labour market. Health and well-being of employees can have a significant influence on many factors in a company, like productivity, lower costs, reduced absenteeism and even a lower turnover. Investment into health or wellness programs are measured by either well-being index, days away from work or so called absenteeism or ROI. Based on data from OECD and the outcome of a survey we have compared the well-being of employees in Slovakia and other EU countries. Based on the outcomes of the survey the current level of well-being in Slovakia is similar to the Eurofound findings from 2019.

Key words

Health programs, wellness programs, employees' well-being

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Introduction

Health programs often referred to as employee wellness programs, are designed to promote the well-being of their employees. Nowadays they have more the design of a strategic approach than a one-time trend. These programs can have different forms either in the form of regular check-ups, health promotion days, fitness programs, flexible working hours, or even so-called sick days. All of these measures can improve the employee's well-being and their overall satisfaction level with work and improve their health.

What is well-being? According to the OECD, it means the state of living a good life and having the ability to shape one's own life.

According to McKinsey Health Institute organizations prioritising health can see better productivity, reduced absenteeism, lower healthcare costs, and heightened employee engagement and retention.

The more benefits that are directed at the well-being of employees the more positively a company is seen in the eyes of the employees and the public. The reason why companies and investors are interested in making a positive impact is because they believe it can contribute to sustainable development and well-being (OECD, 2024).

According to Braun (2015) structured workplace health improvement programs can reduce sickness and are cost-effective.

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Others like Aldana (2005) argue that worksite chronic disease prevention programs can improve employee health knowledge, behaviours, and risk factors in the short term. These health programs can even help detect various diseases at an early stage through preventive check-ups and improve the prognosis of treatment and cure.

Some authors like Bertera (1990) consider healthcare programs a good investment that can reduce employee disability days. The same impact of health promotion programs reducing the disability days in the short term was found by author Serxner (2001).

Author Roodbari (2021) based on 28 articles on organizational interventions developed 6 realist program theories to explain how different mechanisms of organizational interventions may lead to different outcomes in different contexts. Based on this he concluded that health interventions can improve employee health and well-being, but the effectiveness depends on the implementation mechanism.

1 Methodology

Our goal is to identify types of existing health programs, and the benefits a company can have from adopting them. We would like to analyze the types of wellness programs that are most commonly used and assess the overall well-being of employees in Slovakian companies, and determine the key factors that influence their well-being.

Many ways exist to measure the company's spending on the well-being of the employees and health programs and the impact of these wellness programs. The most commonly used are these measures:

Return on Investment (ROI)- This metric calculates the financial return on investment in wellness programs by comparing the program's costs to the savings generated from reduced healthcare expenses, absenteeism, and increased productivity.

Employee Engagement Surveys: These surveys assess employees' perceptions of their well-being and the effectiveness of wellness programs. They can include questions about physical health, mental health, job satisfaction, and overall work-life balance.

Absenteeism and Presenteeism Rates: Monitoring changes in absenteeism (days off due to illness) and presenteeism (working while sick) can help measure the effectiveness of health programs in improving overall employee health.

Well-being Indexes: Some organizations use comprehensive well-being indexes that measure various aspects of employee health, including physical, mental, social, and financial well-being.

These metrics help companies assess the impact of their wellness programs and make data-driven decisions to improve employee health and well-being.

Institutions like OECD and Eurofound directly collect data on employee well-being and evaluate them. One of the reports is the OECD Employee well-being index and Eurofound report of Living and working conditions.

Our aim is to research the types of programs that are being offered by employers in Slovakia and measure the well-being of employees. We will use some of the measures, like well-being index, absenteeism and ROI to evaluate the satisfaction of employees and focus on the factors that can influence the well-being level in Slovakia and compare it with abroad.

We have conducted a small regional survey on the well-being of employees in Slovakia in the NUTS 4 region of Šal’a, to find out the current level of well-being in four crucial areas and compared it with the Eurofound well-being index. The survey was focused on three areas:

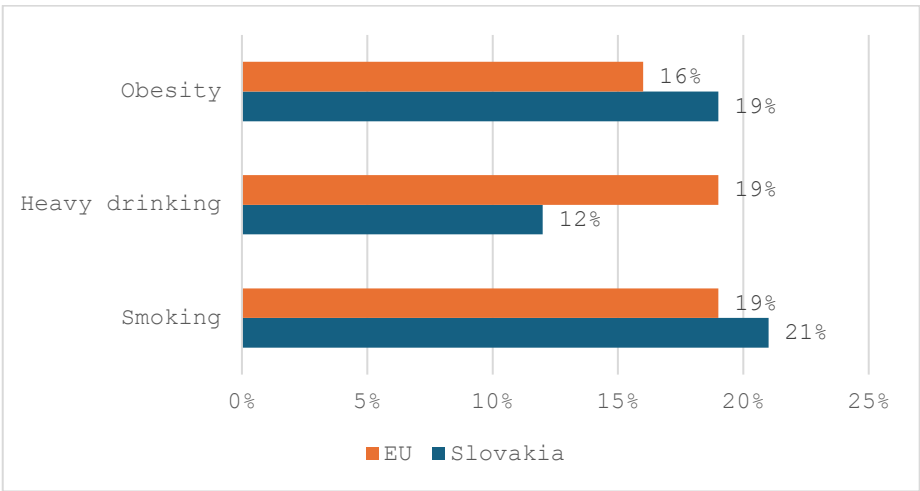
- Job satisfaction
- Work environment
- Management and Leadership
- Professional Development
- Work-life Balance

We shall also mention some latest trends in the types of wellness programs that are offered by companies in the world and could be also adapted in a company and the benefits these programs can bring.

2 Results and Discussion

According to OECD in their annual health report for EU countries, in Slovakia, there is a high mortality rate from preventable and treatable causes. These are often related to behavioural risk factors like diet-related factors – tobacco smoking, alcohol consumption, low levels of physical activity and a small proportion of fruits and vegetables in the diet. This creates space for health programs that would improve knowledge about a healthy lifestyle and detect treatable diseases through preventive check-ups. These health programs could be implemented by the employers, to prevent possible negative health impacts on employees. The overview of these risk behaviours is in Figure 1.

Figure 1 Behavioral risk factors



Source: OECD State of the health in EU – Slovakia, 2023

According to Bertera (1990) health education in companies can have a positive impact on reducing risk factors. Workplace health promotion programs demonstrated reducing risk behaviours like tobacco smoking and high blood pressure.

However, wellness programs are not as well developed in Slovakia in most companies as in Western countries. The most common benefits that companies offer are flexible working hours, sick days and multisport cards (SITA, 2023). Preventive check-ups are usually just before starting at a new company except high-risk work placements, where they are obligated by law. There is a lack of a strategic approach by employers in the form of education and raising awareness of a healthy lifestyle like health promotion days etc. Even though these health promotion activities by companies could be also seen as a form of investment and create economic opportunity by investing in healthy workforces. Some of the larger multinational-based companies usually offer some kinds of health promotion programs but they are not that widely spread across other smaller companies.

The most common health benefits according to Platy.sk, who researched employee benefits in Slovakia are in the form of sick days, when in the case an employee is not feeling well, he can take a paid day off without a doctor's visit. This benefit was used by 16% of employees in the year 2022. The second most common health benefit was a contribution to regeneration activities in the form of wellness or massage, which was used by 12,8 % of the employees in the year 2022 in Slovakia. In the case of contributions to cultural and sports activities, the amount is even less around 3,9%.

The employee wellness program can be seen as a form of investment. In a report by the McKinsey Institute, it was evaluated the average economic value per employee that investing in a healthy workforce can produce.

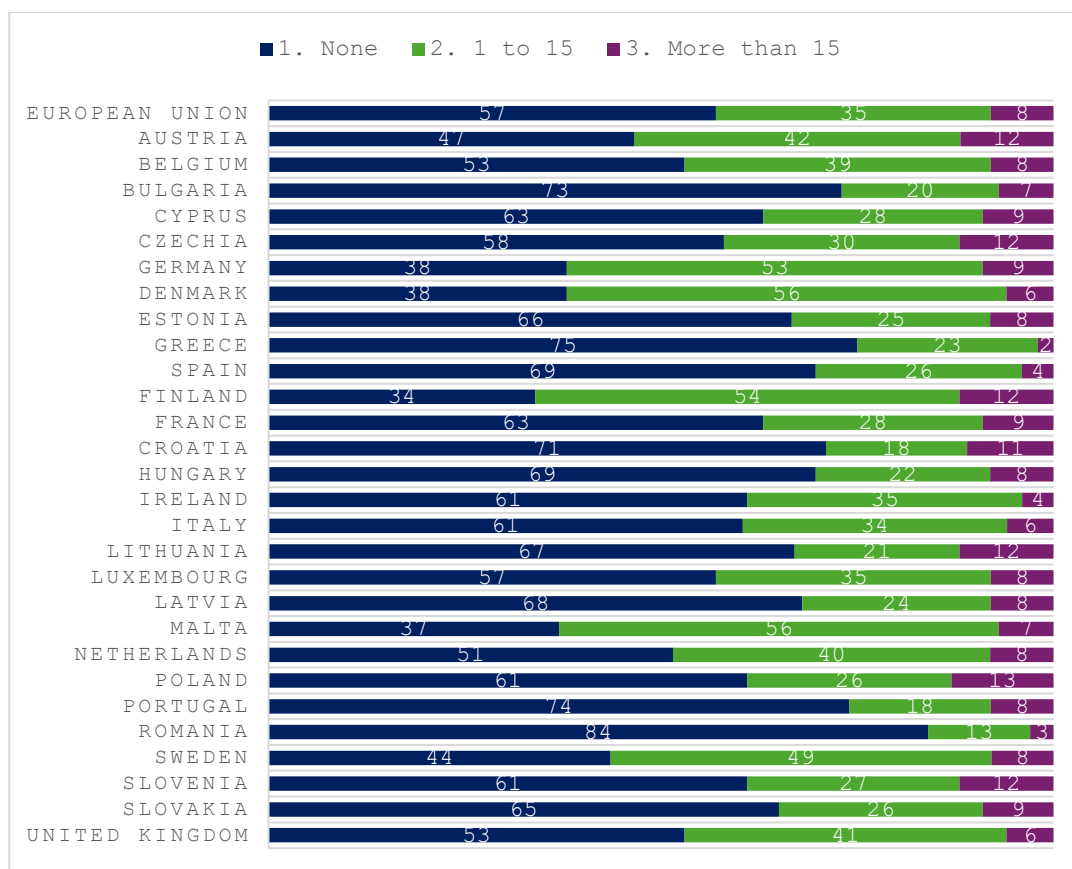
The average economic value per employee was evaluated based on the country income and company type as follows in Table 1:

Table 1 Estimated economic opportunity of investing in healthy workforces, by company characteristics

Companies	Total economic opportunity (in mil \$)	Employees	Economimc value per employee (in \$)
COMPANY A High-Income country <ul style="list-style-type: none"> Industry: Automotive Employees: 20000 Average salary: 40000 	138-442	20000	7-22
COMPANY B Middle-income country <ul style="list-style-type: none"> Industry: Manufacturing Employees: 110000 Average salary: 6000 	114-365	110000	1-3
COMPANY C High-income country <ul style="list-style-type: none"> Industry: Digital Employees: 1500 Average salary: 80000 	21-66	1500	14-44

When we look and compare the other factor that shows the satisfaction and well-being level of employees we can see that in Slovakia the number of days workers were absent from work for health reasons for 1 to 15 days is not a high number (26%), and is even less than EU average 35%. The overview of the well-being index measured by days at work and days absent from work due to health reasons is in Figure 2.

Figure 2 Health and well-being – Number of days absent from work for health reasons past year



Source: Eurofound, European Working Condition Survey, 2024

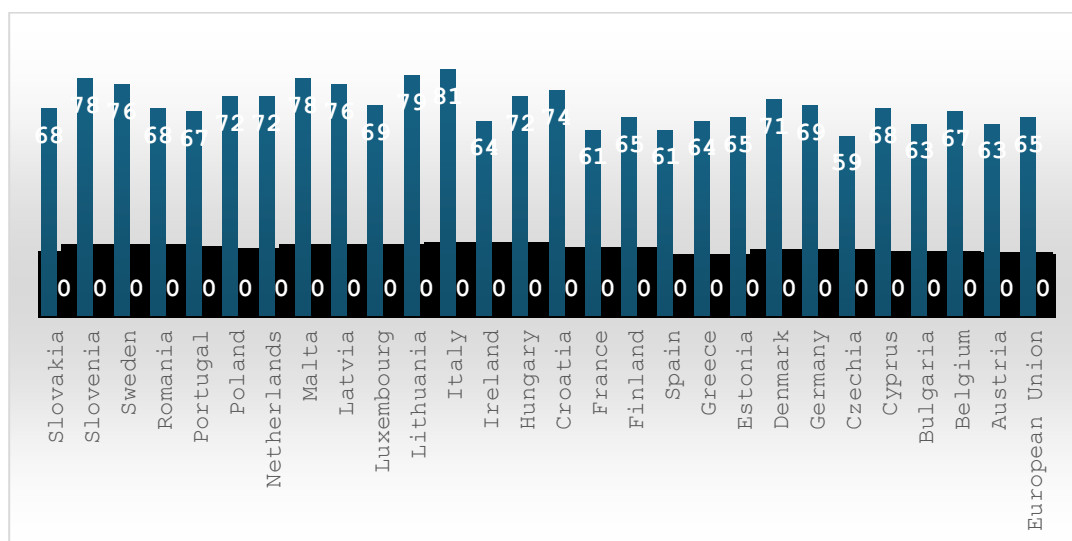
In comparison with the absenteeism, the well-being index of Slovakia, conducted by Eurofound in the year 2019 fell rather in the middle category, between the highest indexes achieved in countries like Slovenia, Sweden, Lithuania or Italy that had the well-being index well above the level of 70, in Slovakia the well-being index as in the year 2019 was on the level of 68.

The index was calculated by measuring factors that influence work quality:

- Physical and mental health
- Work-life balance
- Work intensity
- Physical and social environment
- Skills and discretion
- Prospects and earnings.

The overview of the well-being index for EU countries are in Figure 3.

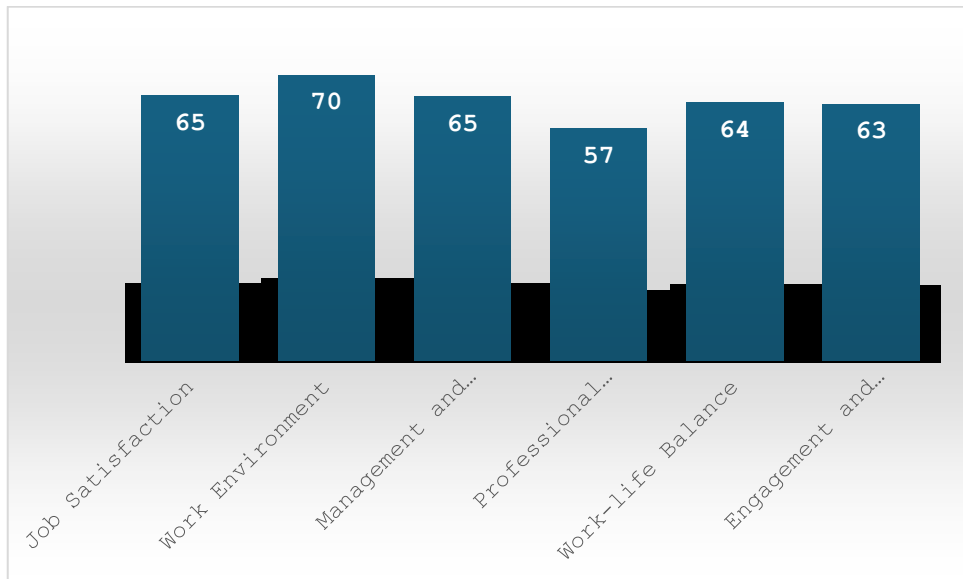
Figure 3 Workplace well-being – index score



Source: Eurofound, European company survey, 2019

Based on the results of our regional questionnaire which was conducted in February 2025, the index of well-being level in region „Šaľa" was similar, even though a bit lower to the the overall well-being index of Slovakia based on the Eurofound Survey. We received 28 answers via Google forms questionnaire. The overall score was 64 in comparison with the level of 68 in 2019 based on Eurofound Survey. The best evaluated was the work environment (70 points) and the least satisfied were employees with the possibilities of personal growth which they evaluated with 57 points out of 100. The second worst was Engagement and Motivation. From the optional answers describing what the employees would improve or what could be better the answers were either about a better work environment in terms of team or company culture or better work conditions like the physical space of the company. The outcome of the survey can be seen in Figure 4.

Figure 4 Employment engagement survey in Šaľa



Source: author's calculation based on online survey via Google forms, February 2025

Employees' feelings at work have become crucial nowadays, as they are drawn to employers not only by salary but also by the benefits offered and the overall company culture. To attract top talent, companies frequently offer various health programs, such as wellness initiatives and premium healthcare. Prospective employees often research potential employers and compare overall satisfaction levels with other companies. Factors such as benefits, workplace atmosphere, work environment, and senior management behavior all significantly influence employee satisfaction levels. Some online platforms like Glassdoor, and Indeed, offer potential employee insights into how organizations treat employees and the kind of benefits they offer to support their well-being.

What kind of well-being programs are being offered in the high-rated companies?

Health programs can have a much more strategic approach, which starts with a voluntary survey for all program participants. After taking a survey on health status, personal habits, and lifestyle a medical check-up is followed by site medical staff. Afterwards, there are health promotion activities planned (like education, smoking cessation, fitness and stress management..) and regular check-ups. The companies can influence this healthy lifestyle even by financial compensation.

Not addressing the employee's well-being can even hurt company costs. For example, in a research by Kessler (2011), US employees with untreated insomnia cost employers approximately \$2,280 more per year than those without insomnia because of factors such as absenteeism, diminished performance, and higher rates of accidents and injuries.

The importance of the well-being of employees can be seen even in the research conducted by S&P Global Sustainable1 in 2023. Based on the data companies that prioritize

employee happiness showed improved productivity, greater collaboration and innovation and even lower turnover.

In the research conducted by the Wellbeing Research Centre at the University of Oxford in 2023, they assessed the relationship between workplace wellbeing and firm performance. Using data from Indeed, they found out that the companies with the highest well-being levels have outperformed standard benchmarks in the stock market.

Any company aiming to enhance the quality of work by focusing on employee well-being must consider two critical factors, as highlighted in a report by Harvard Business Review:

- Data protection - employers must prioritize the protection of employees' data when collecting information about their well-being and health. It is essential to ensure that employees understand how their information will be safeguarded and the benefits they will receive from sharing this information.
- Return on Investment – improving workplace quality is a long-term investment, and employers may be hesitant to invest in employees who might leave the organization. However, it's important to recognize that potential employees often choose between employers based on who prioritizes their health and well-being.

In summary, companies need to balance the protection of employee data with the recognition that investing in well-being can attract and retain talent.

Conclusion

Well-being programs are nowadays considered especially in developed countries not as an extra benefit but a crucial investment without which the company will fail to attract and maintain the best talents. That's a reason why companies are investing in developing a healthy workplace which can lead to sustainable development and increase the productivity of the company so it can perform well not just today but in the future as well. There are many ways to measure the well-being of the employees either by level of absenteeism or employee engagement surveys and by well-being indexes. Many sites like Indeed or Glassdoor directly offer the comparison of these indexes and create a ranking of the best-performing companies based on the index Wellbeing which even outperformed the S&P index.

The way to improve the state of the employees in any company should be data on the well-being of employees in any company. Health prevention days or Employee engagement surveys could be a tool for creating a change. The company could gain an overview of the activities that are needed or employees want for a better workplace. Promoting a healthy lifestyle even through financial incentives could make a change for the better in any company. The reward would be in the form of before mentioned reduced absenteeism, improved productivity and a healthier workforce.

The European Union has introduced several initiatives aimed at tackling work-life balance and enhancing employee satisfaction. Key examples include the European Framework Directive on Safety and Health at Work, the Strategic Framework on Health and Safety at Work 2021-2027, the Work-life Balance Directive, and the European Framework Agreement on Telework. These directives set stricter standards for employee well-being, emphasizing that risk management must encompass stress and be assessed through psychological risk assessments, along with the implementation of prevention methods.

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"R&D, Patents and Economic Growth: Assessing Their Impact on GDP in the EU Member States and the UK"¹

Michaela Schönová²

Abstract

This paper investigates the impact of research and development (R&D) expenditures and patent activity on Gross Domestic Product per capita (GDP pc) in the European Union member states and the United Kingdom. The analysis is based on panel data covering the period 2014 – 2023. The article applies panel regression techniques to analyse secondary data sourced from the World Intellectual Property Organization and World Bank - World Development Indicators. The study applies a fixed-effects model with clustered standard errors to examine how innovation-related variables contribute to economic development. The findings suggest that R&D expenditures have a significant positive effect on GDP per capita, while the number of patents does not have a statistically significant effect on GDP per capita. The results highlight the complex relationship between innovation inputs and economic outcomes, and emphasize the importance of fostering not only R&D spending but also the effective translation of innovation into economic value.

Key words

Research and development, GDP, Economic Growth, Patents, European Union

JEL Classification: O30, O32, O40

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Introduction

To achieve sustainable long-term growth, an economy must rely on more than just capital and labour, it needs constant technological advancement and innovation. Investing in research and development (R&D) plays a crucial role in supporting long-term economic growth and it helps countries to maintain global competitiveness. Innovative capacity, human capital quality, and research productivity are fundamental determinants of economic growth (Romer, 1990).

Promoting economic growth is a fundamental goal of every country's economic policy, driven by multiple determinants. Sharipov (2016) identified the key drivers of economic growth by categorizing them as either exogenous (geography, institutions, demographic trends, social-cultural factors, political factors) or endogenous (investment, human capital, research and development, economic policies and macroeconomics conditions, openness to trade).

Academic literature widely acknowledges research and development (R&D) as a key driver of economic growth. Solow (1957) was one of the first to highlight the impact of

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technological change on economic growth and most of the new economic growth concepts are largely based on the Solow model.

As stated by Romer (1990), for an economy to grow, technological development is essential and that requires investment in research and development. Adak (2015) highlighted the significant contribution of technological advancement and innovation to economic growth. Education, new knowledge, innovation, and R&D represent key pillars of endogenous growth, as investment in education fosters a highly skilled workforce that drives research, enhances economic efficiency, and promotes sustained domestic growth (Ali et al., 2021).

According to Galindo & Méndez (2014), the process of innovation enhances both growth and profit. Analysis of Blanco et al. (2013) shows that R&D stock has a strong and lasting impact on output and productivity, contributing to long-term economic growth. A valuable literature review on the overall impact of R&D was carried out by Svensson (2008) and concluded that there is no link between R&D and growth in poorer countries, while a strong statistical relationship between R&D and productivity exists in developed countries.

The findings of Ali et al. (2021) indicated that R&D expenditure has a strong positive impact on long-term economic growth (GDP), while no significant effect is observed in the short run. Freimane & Bāliņa (2016) examined the empirical relationship between R&D expenditures and economic growth across EU member states during the period 2000–2013, finding a statistically significant impact of R&D investment on economic performance.

Based on data from 52 countries between 1996 and 2010, Gumus & Celikay (2015) found that R&D spending has a consistently positive and statistically significant impact on long-term economic growth. On the contrary, analysis of Das & Mukherjee (2019) indicated the absence of a long-run relationship between R&D and economic output per capita. Similarly, Jones (1995) argued that a permanent increase in the share of R&D expenditure does not lead to a lasting change in the economic growth rate.

According to some authors, the number of patents can be used as a proxy measure of research output and innovation activity (Huňady & Orviská, 2014; Galindo & Méndez, 2014; Hudson & Minnea, 2013; Papageorgiadis & Sharma, 2016; Sein & Prokop, 2022). Study of Zachariadis (2003) showed that R&D intensity positively impacts the rate of patenting, which subsequently drives technological progress and contributes to the growth rate of output per worker.

While patents are often seen as necessary tools for encouraging innovation, numerous studies challenge this view, suggesting that their actual impact is modest or even counterproductive. As evidenced by Sweet & Eterovic (2019), patents do not represent a significant factor influencing productivity growth.

According to Das (2020), the causal relationship between patents, R&D spending, and income growth rates appears to be weak. Study of Chu, Kou, & Wang (2019) stronger patent protection facilitates an earlier growth phase and technological development, however, in the long run it may be counterproductive, reducing the pace of innovation and slowing economic development.

Another variable influencing Gross Domestic Product (GDP) used by various authors, is foreign direct investment (FDI) (Hudson & Minnea, 2013; Huňady & Orviská, 2014; Sharipov, 2016). As pointed out by Laik (2005), many studies and researchers investigating the relationship between intellectual property and economic growth have emphasized foreign direct investment (FDI) as a key factor.

Study of Huňady & Orviská (2014) conclude that foreign direct investment (FDI) inflows positively impact economic growth, as FDI is regarded as a crucial source of technological diffusion between countries. Similarly, Omri et al. (2014) demonstrated that FDI inflows have a positive and statistically significant effect on economic growth. Also, Sein & Prokop (2022) demonstrated that foreign direct investment (FDI) has a highly significant impact on regional economic growth.

1 Methodology

Nominal Gross Domestic Product (GDP) and Gross Domestic Product per capita (GDP pc) are among the primary indicators of a country's economic growth. This article examines the impact of research and development (R&D) investment and patents on Gross Domestic Product (GDP) per capita in the European Union countries and the United Kingdom over the period 2014 – 2023.

This study's panel analysis is based on data from World Bank - World Development Indicators (WDI) and World Intellectual Property Organization (WIPO) databases. The panel regression analysis was conducted using Gretl software, applying a fixed-effects model with standard errors clustered at the country level.

In the analysis, Gross Domestic Product per capita (GDP pc) is used as the dependent variable. Two independent variables were used to represent research and development: R&D expenditure as a percentage of GDP and the number of patent applications. This aligns with the claim of Hudson & Minnea (2013) and Sweet & Eterovic (2019), that innovation is typically measured in two ways: R&D expenditure (as an input) and the number of patents (as an output). Foreign direct investment (FDI) net inflow and GDP growth were included as an independent variable, measured as a percentage of Gross Domestic Product (GDP).

The analysis employs a panel regression model with fixed effects to examine the relationships between the variables. The variables Gross Domestic Product per capita (GDP pc) and number of patent applications were logarithmically transformed. The variables, including a brief description and their corresponding data sources, are presented in Table 1.

Table 1 Description of variables

Variables	Description	Source
InGDPpc	Natural logarithm of GDP per capita (current US\$)	World Development Indicators (WDI)
GDPgrowth	GDP growth (annual %)	World Development Indicators (WDI)
R&D	Research and development expenditure (% of GDP)	World Development Indicators (WDI)
FDI	Foreign direct investment, net inflows (% of GDP)	World Development Indicators (WDI)
InPatents	Natural logarithm of Total patent applications (direct and PCT national phase entries)	World Intellectual Property Organization (WIPO)

Source: authors' own calculations in GRETl based on data from WDI (2025) and WIPO (2025).

The coefficients of the variables and model parameters were estimated using GRETl software, and the general structure of the panel data econometric model is presented below (Lukáčik et al., 2010):

$$y_{it} = \alpha_i + \beta_1 x_{it1} + \beta_2 x_{it2} + \dots + \beta_k x_{itk} + u_{it} \quad (1)$$

We employ a panel data regression model, which is formulated as follows:

$$\ln(GDPpc_{it}) = \beta_0 + \beta_1 GDPgrowth_{it} + \beta_2 R\&D_{it} + \beta_3 \ln(Patents_{it}) + \beta_4 FDI_{it} + \alpha_i + \varepsilon_{it} \quad (2)$$

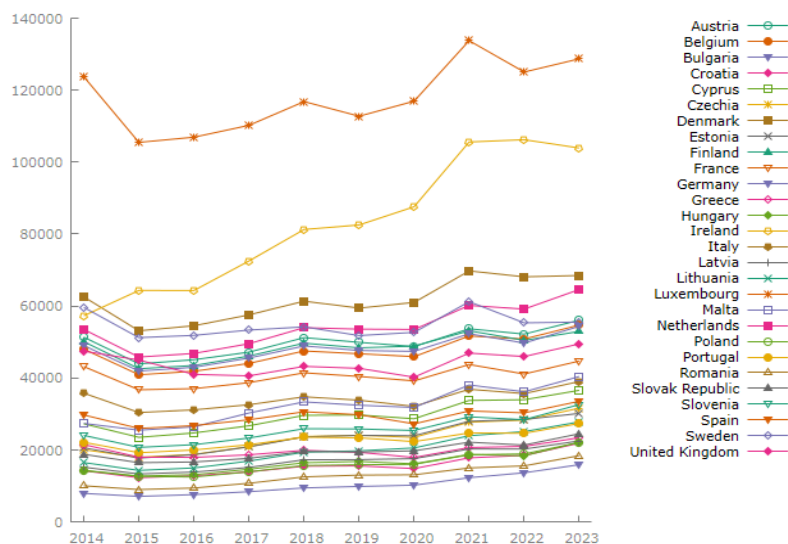
where

- $\ln GDPpc_{it}$ is natural logarithm of the Gross Domestic Product per capita (GDP pc) in country i in year t ,
- $GDPgrowth_{it}$ is annual GDP growth rate of country i in year t ,
- $R\&D_{it}$ is research and development expenditure as a percentage of GDP,
- $\ln(Patents_{it})$ is natural logarithm of the number of patents applications in country i in year t ,
- FDI_{it} is inflows of foreign direct investment to country i in year t ,
- α_i are fixed effects,
- ε_{it} is error term.

2 Results and Discussion

In this section, we focus on the results of the panel regression analysis, which examines the relationship between R&D expenditure and Gross Domestic Product per capita (GDP pc) in the analysed countries. To provide additional context for the analysis, Figure 1 displays the development of GDP per capita across the 28 countries included in the analysis over the period 2014 – 2023.

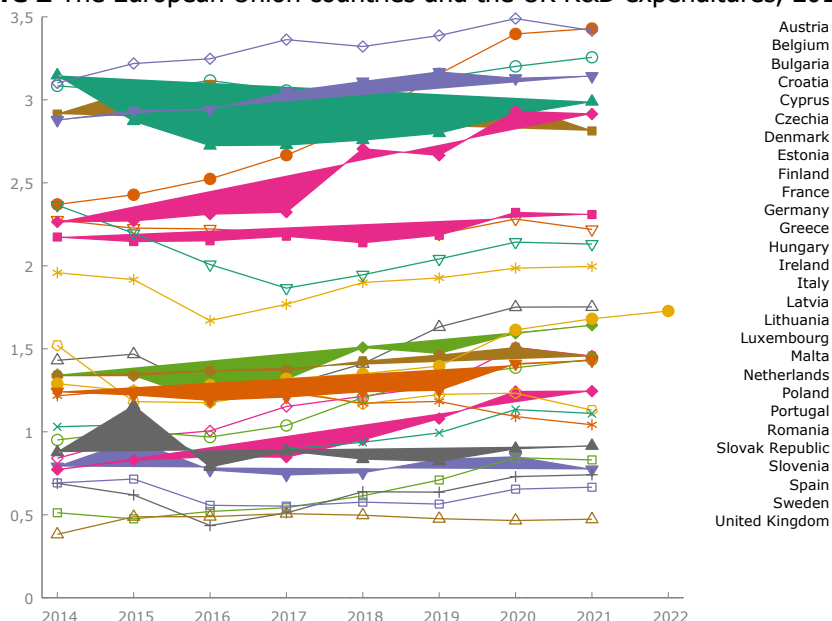
Figure 1 Development of GDP per Capita in EU countries and UK, USD (2014 – 2023)



Source: authors' own processing based on data from World Bank - World Development Indicators (2025)

Figure 2 presents the R&D expenditures of the European Union countries and the United Kingdom between 2014 and 2023.

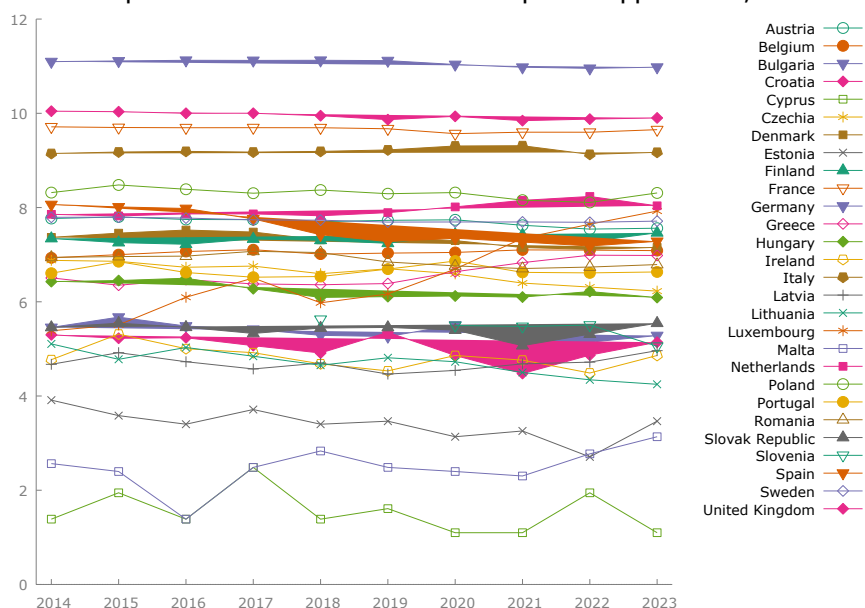
Figure 2 The European Union countries and the UK R&D expenditures, 2014 – 2023



Source: authors' own processing based on data from World Bank - World Development Indicators (2025)

Figure 3 illustrates the number of patent applications across EU member states and the UK between 2014 and 2023.

Figure 3 The European Union countries and the UK patent applications, 2014 - 2023



Source: authors' own processing based on data from World Intellectual Property Organization (2025)

To further examine the relationship between R&D expenditures and economic growth, panel data regression analysis was conducted. A fixed-effects panel regression model was estimated using 225 observations from 28 cross-sectional units. The time dimension of the data ranges from a minimum of 8 to a maximum of 9 years per unit. The dependent variable is the natural logarithm of GDP per capita (lnGDPpc), and standard errors are clustered at the unit level to correct for potential within-unit correlation. The results of the panel regression are presented in Table 1.

Table 1 Panel Regression Results – Fixed Effects Model

Model 1: Fixed-effects, using 225 observations					
Included 28 cross-sectional units					
Time-series length: minimum 8, maximum 9					
Dependent variable: lnGDPpc					
Standard errors clustered by unit					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	9,85424	0,18547	53,13	<0,0001	***
GDPgrowth	0,006255	0,0012815	4,881	<0,0001	***
R&D	0,216622	0,0717387	3,02	0,0055	***
ln_Patents	0,0059191	0,0217741	0,2718	0,7878	
FDI	0,0001757	0,0001889	0,9303	0,3605	

Significance levels: *** p < 0.01, ** p < 0.05, * p < 0.1

Mean dependent var	10,27547	S.D. dependent var	0,610906
Sum squared resid	2,322708	S.E. of regression	0,109703
LSDV R-squared	0,972216	Within R-squared	0,127172
Log-likelihood	195,2426	Akaike criterion	-326,4852
Schwarz criterion	-217,1699	Hannan-Quinn	-282,3651
rho	0,690926	Durbin-Watson	0,585284

Joint test on named regressors -

Test statistic: $F(4, 27) = 8,77289$

with p-value = $P(F(4, 27) > 8,77289) = 0,0001131$

Robust test for differing group intercepts -

Null hypothesis: The groups have a common intercept

Test statistic: Welch $F(27, 70,4) = 60,5185$

with p-value = $P(F(27, 70,4) > 60,5185) = 1,20227e-38$

Hausman test -

Null hypothesis: GLS estimates are consistent

Asymptotic test statistic: Chi-square(4) = 15,947

with p-value = 0,00309112

The results show that both GDP growth and R&D expenditures have a positive and statistically significant relationship with GDP per capita at the 1% level. Specifically, a 1 percentage point increase in GDP growth is associated with an approximately 0.62 % increase in GDP per capita. A 1 percentage point increase in R&D expenditures is associated with an increase of approximately 21,66 % increase in GDP per capita. This finding supports theories suggesting that technological innovations, often a result of R&D investments, positively impact productivity and economic growth. These results align with earlier studies (Adak, 2015; Ali et al., 2021; Freimane & Băliņa, 2016; Galindo & Méndez, 2014; Romer,

1990; Sharipov, 2016; Solow, 1957), which emphasized the importance of technological innovations for economic growth.

Interestingly and perhaps counterintuitively, the logarithm of patents has a positive but statistically insignificant effect on GDP per capita, as the coefficient is approximately 0.0059 and the p-value is 0.7878. This suggests that an increase in patent activity does not necessarily translate into immediate gains in economic output. Given the high p-value of 0.7878, the relationship is not statistically significant at the 10% level, indicating that the effect is likely weak or insignificant, but it should be further explored in later studies.

The foreign direct investment (FDI) variable is not statistically significant, with a p-value of 0,3605. This indicates that, in the context of this model, there is no evidence of a direct link between FDI inflows and GDP per capita.

The LSDV R-squared value of 0,972216 indicates that the model explains approximately 97,22 % of the total variation in the dependent variable. However, the within R-squared value of 0,127172 suggests that the variation within individual cross-sectional units is relatively low and suggesting that most of the explanatory power comes from differences across units rather than changes over time. The joint significance test of the regressors yields an F-statistic of 8,77 ($p < 0.001$), confirming that the explanatory variables collectively have a statistically significant effect on the dependent variable.

In this model, clustered standard errors were used to address both autocorrelation and heteroscedasticity.

Based on the Hausman test (Chi-square = 15,947, p-value = 0.0031), the null hypothesis that the random effects model is appropriate was rejected. Therefore, we conclude that the fixed effects model is more suitable for the analysis.

Conclusion

This article examines the impact of research and development (R&D) investment and patents on Gross Domestic Product (GDP) per capita in the European Union countries and the United Kingdom over the period 2014 – 2023. The analysis, based on a fixed-effects model over a period of 2014 -2023, reveals several key findings that provide valuable insights into how innovation drives economic performance in 27 European Union countries and the United Kingdom. As is evident from our analysis, investments in research and development (R&D) play a crucial role in driving innovation, productivity, and long-term growth in GDP per capita. The findings presented in this article align with both theoretical and empirical evidence from the existing literature (Adak, 2015; Ali et al., 2021; Blanco et al., 2013; Freimane & Băliņa, 2016; Galindo & Méndez, 2014; Gumus & Celikay, 2015; Romer, 1990; Sharipov, 2016; Solow, 1957).

The results indicate that GDP growth has a strong, positive, and statistically significant effect on GDP per capita. This suggests that countries with higher GDP growth rates are likely to experience increased economic prosperity, as measured by GDP per capita. Similarly, research and development (R&D) expenditures were observed to have a significant positive relationship with growth in GDP per capita. On the other hand, foreign direct investment (FDI) was found to have a non-significant effect on GDP per capita. This suggests that, at least in the context of this study, foreign direct investment (FDI) may not be as influential in driving growth in GDP per capita as other factors, such as GDP growth or R&D spending.

The relationship between patents and growth in GDP per capita was somewhat surprising. Although the coefficient for patents was positive, the effect was not statistically significant. This suggests that, while patents are often associated with innovation, their direct impact on economic growth may be less clear or more complex.

Based on these findings, it can be concluded that countries should invest more in research and development as a key driver of growth in GDP per capita. While GDP growth and research and development (R&D) expenditures are shown to significantly promote higher GDP per capita, the non-significance of patents and foreign direct investment (FDI) point to the complexity of the relationship between innovation and economic performance. These results suggest that policymakers and business leaders should prioritize investment in research and development to foster sustainable growth in GDP per capita and long-term prosperity.

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The impact of reputation metrics on corporate revenues¹

Zuzana Štofaničková - Kristián Kalamen - František Pollák²

Abstract

This study examines the relationship between corporate reputation and financial performance in the Czech bottled water industry (CZ NACE 11070), focusing on Total Online Reputation (TOR) scores and Advanced Sentiment Analysis (ASA) scores. Using a mixed-methods approach, it integrates secondary financial data with primary reputation metrics from sentiment analysis, online ratings, and indexed web pages. The study analyzes the top 10 companies, refining the focus to the top 4 based on data availability. Correlation and regression analyses reveal a stronger relationship between TOR scores and revenues ($r = 0.841$) than ASA scores ($r = 0.749$), indicating that multifactorial reputation metrics better predict corporate performance. However, the small sample size limits statistical significance. Findings emphasize reputation management as a competitive strategy, especially in industries where consumer perception and sustainability impact financial success. Businesses should leverage digital reputation insights to enhance performance. Future research should expand datasets and explore market dynamics and stakeholder trust in reputation valuation.

Key words

reputation, correlation, regression, beverage industry, revenues

JEL Classification: M21, L15, D22

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Introduction

Corporate reputation has become an essential determinant of business success in today's highly competitive and transparent global market. Reputation management, which encompasses strategies aimed at maintaining a favorable corporate image, plays a crucial role in securing consumer trust, investor confidence, and long-term sustainability (Ajayi et al., 2022; Dorčák et al., 2017). Beyond traditional performance drivers such as financial growth and innovation, companies are now increasingly evaluated based on their commitment to social responsibility, environmental stewardship, and ethical business practices (Aful, 2023; Raithel & Schwaiger, 2014). This shift in stakeholder expectations underscores the importance of corporate reputation, particularly in industries that rely on finite natural resources, such as the bottled water sector.

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The Czech bottled water industry, CZ NACE 11070 (NACE Czech Republic, 2025) faces distinct challenges in balancing financial performance with environmental responsibility. Water scarcity, plastic pollution, and regulatory pressures are shaping consumer perceptions and influencing corporate reputations. Recent studies have highlighted growing concerns over microplastics in water supplies, with implications for both public health and industry sustainability (Halfar et al., 2023; Schmidt, et al., 2021). Reports have even found microplastics in amniotic fluid and placental tissues, raising new concerns over long-term health effects (Demortain & Borraz, 2022). Additionally, reputational risks linked to environmental impact and resource mismanagement have led to significant market exits in the sector. Statistics indicate that two-thirds of companies operating under CZ NACE 11070 in the Czech Republic have either ceased operations or shifted their business focus, leaving only a third operating successfully (Kubina et al., 2019; Ministry of Finance of the Czech Republic, 2024; Ministry of Justice of the Czech Republic, 2023). This industry contraction emphasizes the need for companies to adopt effective reputation management strategies as a means of maintaining competitiveness and financial stability.

Given these challenges, this research examines the relationship between corporate reputation and financial performance in the bottled water industry. Specifically, it investigates how reputation metrics, Total Online Reputation (TOR) and Advanced Sentiment Analysis (ASA) scores, correlate with company revenues. The measurement approaches used in this study are based on established methodologies in reputation research. These approaches have been previously utilized in academic literature to assess corporate reputation and its financial impact (Pollák et al., 2017; Jiao et al., 2021). The study builds upon these existing models rather than introducing a completely new methodology. The study employs a mixed-methods approach, initially analyzing the top 10 companies based on financial performance before narrowing the focus to the top 4 for a more detailed examination. This approach ensures that insights are drawn from the most influential firms in the sector while allowing for a deeper exploration of reputation determinants.

This research is guided by the following key questions:

1. What is the relationship between corporate reputation, as measured by TOR and ASA scores, and company revenues?
2. How do these two reputation measurement methodologies differ in their ability to capture the reputation-revenue dynamic?

By addressing these questions, the study contributes to the existing literature on corporate reputation and financial performance while offering actionable insights for companies in the bottled water industry. The findings aim to help firms optimize their reputation management strategies, enhance stakeholder trust, and improve financial resilience in a competitive and sustainability-conscious market.

Literature review

Corporate reputation is widely recognized as a crucial factor influencing financial performance, competitive advantage, and long-term sustainability. A positive corporate reputation enhances consumer trust, investor confidence, and stakeholder engagement, ultimately contributing to higher revenues and market valuation (Ajayi et al., 2022; Raithel & Schwaiger, 2014). Conversely, a damaged reputation can lead to decreased customer loyalty, increased financial risks, and a decline in profitability (Afful, 2023; Gangi, et al., 2020). Given the increasing significance of digital platforms and online consumer interactions, firms

are increasingly relying on advanced reputation metrics to assess and manage their public perception (Pollák et. al., 2019).

Corporate Reputation and Financial Performance

Extensive research has established a strong link between corporate reputation and financial performance. A company with a strong reputation benefit from greater brand equity, enhanced customer retention, and the ability to command premium pricing for its products or services (Amy & Osiyevskyy, 2017; Hangeun & Lee, 2019). Studies also indicate that firms with a well-managed reputation experience lower capital costs and greater access to financing due to higher investor confidence (Jiao et al., 2021). Reputation serves as a risk mitigation factor, as companies with strong reputations are more resilient to market fluctuations and crises (Khairat & Maher, 2015). Furthermore, corporate reputation plays a key role in shaping relationships with other stakeholders, including suppliers, creditors, and regulatory bodies. Businesses with positive reputations often secure favorable contract terms, better credit conditions, and higher stakeholder engagement (Nastišin et al., 2021). The reputational benefits extend beyond financial performance, as companies with strong reputations are more likely to attract and retain skilled employees, further strengthening long-term organizational success (Carrillo-Durán et al., 2023).

Reputation Measurement Methodologies

Several methodologies have been developed to assess corporate reputation, ranging from traditional survey-based approaches to advanced digital sentiment analysis. The Reputation Quotient (RQ), developed by Fombrun and Van Riel, is one of the most established frameworks for evaluating corporate reputation across multiple stakeholder groups (Fombrun et al., 2000). Similarly, the Corporate Reputation Index (CRI) has been widely used to measure a firm's reputation based on consumer perceptions (Loke & Lam-Lion, 2021). However, these traditional methods often rely on subjective survey data, which may not fully capture real-time changes in public perception. In response to these limitations, digital reputation measurement techniques have gained prominence. Sentiment analysis, which applies natural language processing (NLP) and machine learning to assess consumer opinions from online sources has become a key tool for reputation evaluation (Szabo, et al., 2014). Advanced sentiment analysis methods evaluate the emotional tone of online content to quantify reputation scores, which can influence an organization's competitiveness. Similarly, research on corporate advertising involvement suggests that consumer responses to corporate ads differ from product ads, with ad involvement playing a crucial mediating role. While predispositional involvement directly and indirectly affects attitudes and intentions in product advertising, it only influences consumer behavior in corporate advertising when mediated by ad involvement. This highlights the importance of crafting engaging corporate advertisements, as they can enhance brand perception and even drive product purchase intentions, despite not being product-focused. (Kim, 2009). These techniques offer real-time insights and reduce the biases associated with traditional survey-based approaches (Demortain & Borraz, 2022).

Total Online Reputation (TOR) and Advanced Sentiment Analysis (ASA)

This study utilizes two specific reputation measurement methodologies—Total Online Reputation (TOR) and Advanced Sentiment Analysis (ASA)—to assess the relationship between corporate reputation and financial performance. The TOR score is a multifactorial

measure that aggregates various online reputation determinants, including social media ratings, indexed web pages, and consumer sentiment across digital platforms. It is designed to provide a comprehensive overview of a company's online presence and its perceived trustworthiness in the market (Dorčák et al., 2017). The ASA score, in contrast, is based on extended sentiment analysis techniques that categorize consumer sentiment into multiple emotional dimensions. By analyzing online discourse and evaluating sentiment intensity, ASA scores provide deeper insights into public perception trends (Kubina et al., 2019). Previous studies have highlighted the advantages of advanced sentiment analysis in evaluating corporate reputation, particularly in industries where online consumer engagement plays a significant role in shaping brand image (Jiao et al., 2021).

Reputation and the Bottled Water Industry

The competitiveness of the bottled water industry is increasingly influenced by reputation capital, as growing consumer awareness of environmental sustainability and corporate social responsibility shapes perceptions and market dynamics. (Aidarovna-Kamalova & Lenarovna-Kurbangalieva, 2020). Negative public sentiment surrounding plastic waste, resource depletion, and microplastic contamination has placed heightened scrutiny on companies operating in this sector (Schmidt, et al., 2021). As a result, firms in the bottled water industry must actively manage their reputation to maintain consumer trust and long-term profitability (Halfar et al., 2023). Studies indicate that reputation management is particularly critical for small and medium-sized enterprises (SMEs) in the bottled water industry, as these firms often lack the financial and operational resources to counter negative publicity (Ministry of Finance of the Czech Republic, 2024). By leveraging digital reputation measurement tools such as TOR and ASA, businesses can gain actionable insights into consumer perceptions and develop targeted reputation management strategies (Pollák et al., 2019).

The existing literature underscores the importance of corporate reputation as a determinant of financial performance, while also highlighting the advantages of advanced reputation measurement methodologies. This study builds upon prior research by applying TOR and ASA scores to assess the reputation-financial performance relationship within the Czech bottled water industry. Given the sector's increasing exposure to reputational risks, adopting effective online reputation management practices is crucial for long-term success. The findings from this study aim to provide both theoretical and practical contributions to the field of corporate reputation management.

1 Methodology

This study aims to examine the relationship between corporate reputation and financial performance in the Czech bottled water industry, classified under CZ NACE 11070 (NACE Czech Republic, 2025). Specifically, the research focuses on two reputation measurement methodologies: Total Online Reputation (TOR) scores and Advanced Sentiment Analysis (ASA) scores, assessing their correlation with company revenues. By comparing these methodologies, the study seeks to determine which reputation metric provides a more reliable indicator of financial success.

Data Collection and Sample Selection

The study employs a mixed-methods approach, integrating secondary financial data with primary reputation data derived from digital platforms. The research initially analyzed the top 10 companies within the Czech bottled water industry based on financial performance, narrowing the focus to the top 4 companies for in-depth analysis. This selection process was based on revenue rankings and data availability, ensuring that the final sample represented companies with significant market influence.

1. Secondary Data (Financial)

Financial data were obtained from publicly available sources, including:

- ARES (Ministry of Finance of the Czech Republic, 2024) – financial statements, revenue data, and profitability indicators.
- eJUSTICE (Ministry of Justice of the Czech Republic, 2023) – corporate reports, legal filings, and annual statements.

The following financial variables were extracted:

- Revenue (total sales from own products and services).
- Net profit (profitability measure to assess financial stability).
- Inventory levels (as an indicator of market demand and production efficiency).

2. Primary Data (Reputation)

Reputation-related data were collected using a digital sentiment analysis approach, incorporating:

- Google and Facebook ratings – as indicators of consumer satisfaction.
- Indexed web pages – representing online visibility and search engine authority.
- Extended sentiment analysis – measuring digital reputation trends through multi-factor NLP analysis (Pollák, 2015).

These reputation determinants were used to compute TOR scores and ASA scores, which formed the basis for statistical analysis.

Reputation Measurement Methodologies

Total Online Reputation (TOR) Score

The TOR score is a multifactorial measure that aggregates various online reputation determinants, including social media ratings, indexed web pages, and digital sentiment indicators. It captures a quantitative assessment of a company's online presence and trustworthiness. The formula for TOR calculation follows an extended sentiment analysis model proposed by Dorčák et al. (2017).

Advanced Sentiment Analysis (ASA) Score

ASA is based on natural language processing (NLP) techniques that analyze digital content, including customer reviews, social media discussions, and online articles (Jiao et al., 2021).

The ASA score was computed using:

- Three sentiment keyword groups – classifying online discourse into positive, neutral, and negative sentiment categories.

- Machine learning classification models – extracting emotional intensity scores from digital conversations (Jiao et al., 2021).

Both TOR and ASA scores were used to quantify corporate reputation and evaluate their effectiveness in predicting financial performance.

Statistical Methods and Analysis

To assess the relationship between corporate reputation (TOR & ASA scores) and financial performance (revenues), the study employed the following quantitative methods:

Correlation Analysis

Pearson's correlation coefficient (r) was used to evaluate the strength and direction of the relationship between TOR, ASA scores, and revenues (Gangi, et al., 2020) or Freedman et al. (2007).

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 \sum_{i=1}^n (Y_i - \bar{Y})^2}}$$

1. Equation of pearson correlation

Where:

X_i and Y_i are individual data points for variables X and Y, respectively.

\bar{X} and \bar{Y} are the means of variables X and Y.

The numerator represents the covariance between X and Y.

The denominator is the product of the standard deviations of X and Y.

The Pearson correlation coefficient r ranges from -1 to +1:

$r > 0$: A positive correlation (as one variable increases, the other also increases).

$r < 0$: A negative correlation (as one variable increases, the other decreases).

$r = 0$: No correlation (no linear relationship between variables).

Regression Analysis

A linear regression model was applied to assess the predictive power of TOR and ASA scores on revenues. The equation for a simple linear regression model is (Montgomery, et al., 2021; Kutner, et al., 2005)

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \epsilon$$

2. Equation of linear regression model

Where:

X_1, X_2, \dots, X_k = Independent variables (predictors)

β_0 = Intercept, representing the expected value of Y when all X variables are 0

$\beta_1, \beta_2, \dots, \beta_k$ = Regression coefficients, representing the estimated effect of each independent variable on Y

ϵ_i = Error term, accounting for variability not explained by the independent variables

Justification of Sample Size

The final sample of 4 companies was determined based on data availability and industry representation. While the small sample size presents limitations in statistical significance, it allows for an in-depth case study approach to understanding how reputation influences financial performance in a highly specific sector (Afful, 2023).

Table 1: Dataset for regresion and correlation analysis

Company	ASA	GR	FR	PIS	TOR	Revenues
Mattoni 1873 a.s.	40.65	82	82	100	76.16	19592716
Walmart a.s.	35.27	96	94	19	61.07	6100734
CHÂTEAU VALTICE - Vinné sklepy Valtice, a.s.	33.33	94	94	9	57.58	1274930
Ekomilk a.s.	23.01	86	46	8	40.75	2166442

Source: own ellaboration

The impact of reputation metrics on corporate revenues is a critical area of research because corporate reputation significantly influences consumer trust, brand perception, and ultimately, financial performance. Then, calculation of Total Online Reputation (TOR) using the formula based on Kubina et al., (2019):



3. Equation of TOR score

Where:

TOR—total online reputation in %;

Rasa—reputator ASA (% score based on the advanced sentiment analysis);

Ri—reputator (% score based on a given i-th determinant of online reputation;

n—number of indicators.

This study employs hypothesis testing to evaluate the statistical significance of the relationships between Total Online Reputation (TOR) scores, Advanced Sentiment Analysis (ASA) scores, and corporate revenues. The hypothesis tests aim to determine whether these reputation metrics have a measurable impact on financial performance.

The null hypothesis (H_0) states that there is no statistically significant relationship between reputation scores (TOR and ASA) and company revenues. Conversely, the alternative hypothesis (H_1) suggests that a meaningful correlation exists, indicating that reputation scores are predictive of financial performance. To assess statistical significance, the study utilizes p-values with a threshold of $\alpha = 0.05$. If the p-value is below 0.05, H_0 is rejected in favor of H_1 , confirming a significant relationship. If the p-value is greater than 0.05, H_0 is not rejected, implying insufficient evidence to support a strong correlation between reputation metrics and revenues.

2 Results and Discussion

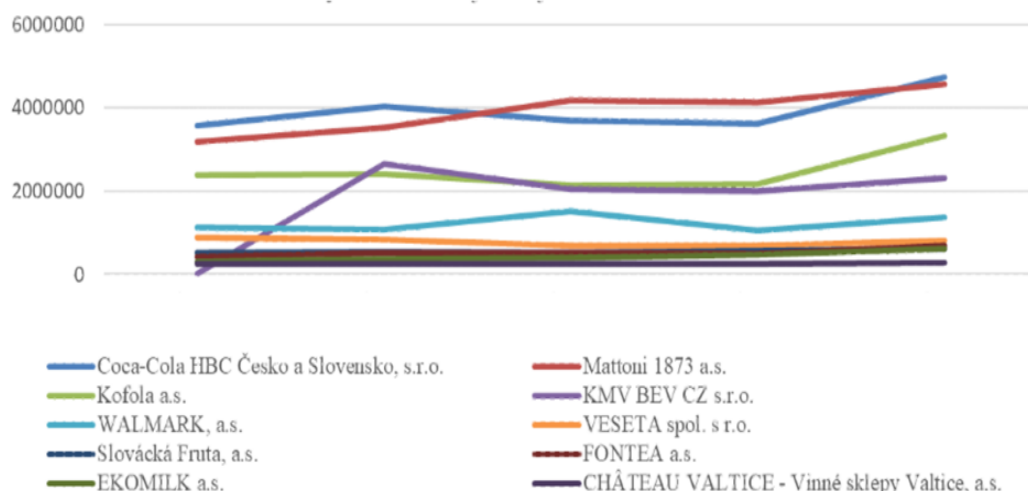
This section presents the key findings of the study and interprets their implications within the context of corporate reputation and financial performance. The results are structured to compare the effectiveness of Total Online Reputation (TOR) scores and Advanced Sentiment Analysis (ASA) scores in predicting company revenues within the Czech bottled water industry. Statistical analyses, including descriptive statistics, correlation analysis, and regression modeling, provide insights into the strength and direction of these relationships. The discussion contextualizes the findings by comparing them with existing literature on corporate reputation management and financial outcomes. Given the increasing reliance on digital reputation metrics in business decision-making, the results contribute to ongoing debates about the validity of online sentiment analysis as a predictor of firm performance (Jiao et al., 2021; Pollák, et al., 2019).

The Total Online Reputation (TOR) score calculations provides a quantitative foundation for analyzing the impact of reputation metrics on corporate revenues:

$$\begin{aligned}\text{TOR score calculation} &= \frac{\text{TOR score}}{\text{Maximum TOR score}} = \frac{76.16}{100} = 76.16 \% \\ \text{TOR score Walmark a.s.} &= \frac{\text{TOR score}}{\text{Maximum TOR score}} = \frac{61.07}{100} = 61.07 \% \\ \text{TOR score CH\^ATEAU VALTICE - Vinn\^e sklepy Valtice, a.s.} &= \frac{\text{TOR score}}{\text{Maximum TOR score}} = \frac{57.58}{100} = 57.58 \% \\ \text{TOR score Ekomilk a.s.} &= \frac{\text{TOR score}}{\text{Maximum TOR score}} = \frac{40.75}{100} = 40.75 \%\end{aligned}$$

An analysis of the ten most successful companies, as presented in figure (Graph n. 1), revealed that most of these firms experienced increasing revenues up until 2019. However, a turning point occurred in 2019, after which all companies, except for Mattoni, a.s., and Walmark, a.s., observed a decline in revenues that persisted until 2021. Initially, this decline was sharp, but by the end of 2020, revenues began to stabilize. The author attributes this trend to the impact of the COVID-19 pandemic. A subsequent reversal occurred in early 2021, with revenues beginning to rise across all companies, coinciding with the lifting of government-imposed COVID-19 restrictions. Supporting this observation is the fact that Walmark, a.s., which produces both dietary supplements and pharmaceuticals, benefitted from increased demand for these products during the pandemic. Similarly, Mattoni 1873, a.s., which specializes in the production of mineral and medicinal waters, experienced revenue growth. These two companies uniquely benefitted from heightened consumer interest in medicines, medicinal waters, and dietary supplements aimed at boosting immunity during the COVID-19 crisis.

Graph 1: Overview of the 10 most successful joint-stock companies (a.s.) and limited liability companies (s.r.o.) with the business activity CZ NACE 11070 in the Czech Republic based on revenues from 2018 to 2022



Source: own collaboration

Table 2: Overview of the 10 most successful joint-stock companies (a.s.) and limited liability companies (s.r.o.) with the business activity CZ NACE 11070 in the Czech Republic based on revenues from 2018 to 2022

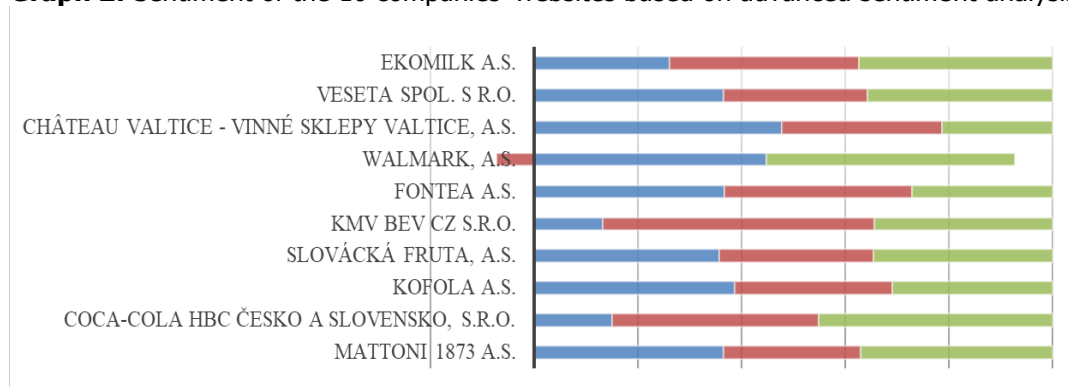
N.	Company	Revenue 2018	Revenue 2019	Revenue 2020	Revenue 2021	Revenue 2022	Total revenue
1	Coca-Cola HBC Česko a Slovensko, s.r.o.	3564500	4034034	3704138	3619257	4748224	19670153
2	Mattoni 1873 a.s.	3177771	3532274	4189069	4134093	4559509	19592716
3	Kofola a.s.	2377422	2420387	2142716	2160404	3323934	12424863
4	KMV BEV CZ s.r.o.	2109213	2661738	2053109	1989971	2322142	9027170
5	WALMARK, a.s.	1125546	1065274	1509296	1042663	1357955	6100734
6	VESETA spol. s r.o.	887194	840778	694412	684901	817537	3924822
7	Slovická Fruta, a.s.	527555	547972	526593	556273	607852	2766245
8	FONTEA a.s.	429724	518558	515225	496859	679981	2640347
9	EKOMILK a.s.	310299	362333	391789	480076	621945	2166442
10	CHÂTEAU VALTICE	258144	255642	244222	246953	269969	1274930

Source: own collaboration

When examining the reputation of the ten most successful companies through sentiment analysis, as illustrated in Graph n. 2, it becomes evident that employing advanced sentiment analysis provides a more accurate evaluation. This method assesses the sentiment of all companies' websites comprehensively by analyzing three distinct groups of keywords. Conversely, utilizing a basic sentiment analysis approach based solely on the keyword "name

of the entity" would result in the highest sentiment scores being attributed to CHÂTEAU VALTICE - Vinné sklepy Valtice, a.s., Walmark, a.s., and Kofola, a.s., according to the data presented in Graph n. 2. However, the rankings differ significantly when applying the advanced sentiment analysis approach.

Graph 2: Sentiment of the 10 companies' websites based on advanced sentiment analysis



Source: own collaboration

According to Table n. 3, which shows the ranking of companies based on advanced sentiment analysis, the strongest reputation belongs to Mattoni 1873, a.s., followed by Coca-Cola HBC Czech Republic and Slovakia, s.r.o., and then Kofola, a.s.

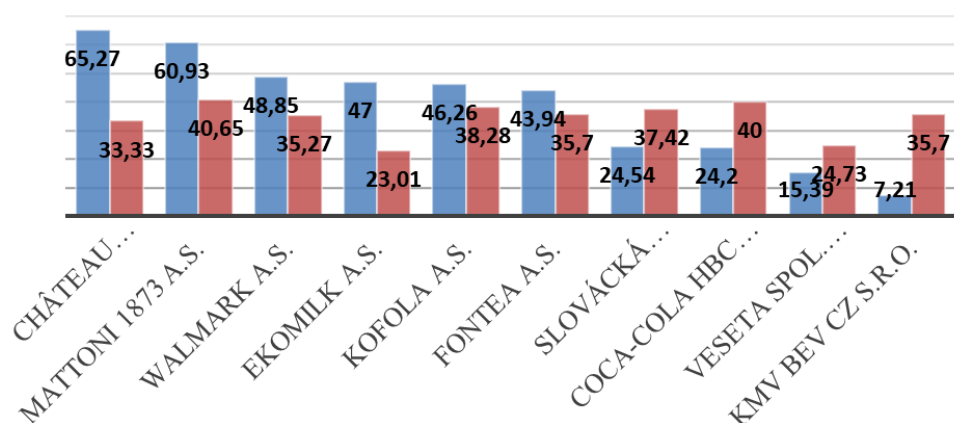
Table 3: Results of advanced sentiment analysis based on three groups of keywords

Key word 1	1 group	Key word 2	2 group	Key word 3	3 group	Score
Mattoni 1873	69	Mattoni 1873 nealkoholické nápoje	50	Mattoni 1873 minerální voda	70	189
Coca-Cola HBC Česko a Slovansk	28	Coca-Cola HBC Česko a Slovensko nealkoholické nápoje	74	Coca-Cola HBC Česko a Slovensko limonády	84	186
Kofola	69	Kofola nealkoholické nápoje	54	kofola limonády	55	178
Slovacká Fruta	62	Slovácká Fruta nealkoholické nápoje	52	Slovácká Fruta minerální vody a limonády	60	174
KMV BEV CZ	22	KMV BEV CZ nealkoholické nápoje	87	KMV BEV CZ minerální vody a limonády	57	166
FONTEA	61	Fontea nealkoholické nápoje	60	Fontea minerální vody a limonády	45	166
WALMARK	86	walmark nealkoholické nápoje	14	Walmark šťávy	92	164
CHÂTEAU VALTICE	74	CHÂTEAU VÁLTICE nealkoholické nápoje	48	CHÂTEAU VALTICE nealkoholické vína	33	155
VESETA	42	Veseta nealkoholické nápoje	32	Veseta minerální vody a limonády	41	115
EKOMILK	28	EKOMILK nealkoholické nápoje	39	EKOMILK mléčné nápoje	40	107

Source: own collaboration

According to the literature, Pollák (2015) and Kubina et al. (2019) highlighted the inherent subjectivity of this type of analysis. A comparison of the TOR and ASA scores, as presented in Graph n. 3, supports their argument, as the rankings derived from the TOR scores differ significantly from those based on the ASA scores. Specifically, the TOR scores identified CHÂTEAU VALTICE – Vinné sklepy Valtice, a.s., Mattoni 1873, a.s., and Walmark, a.s. as the companies with the strongest reputations.

Graph n. 3: Comparison of TOR and ASA scores of the analyzed companies



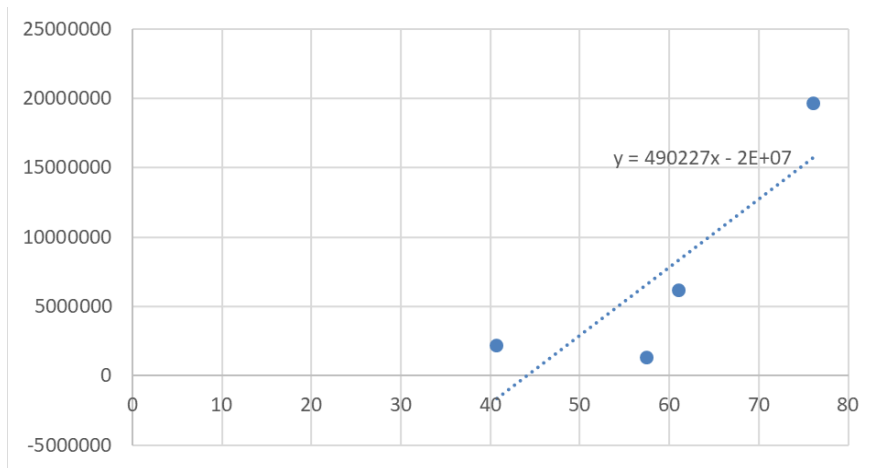
Source: own collaboration

As noted in the literature, Pollák (2015) and Kubina et al. (2019) emphasized the subjective nature of this type of analysis. A comparison of the TOR and ASA scores, as illustrated in Graph n. 3, substantiates their claims, as the rankings derived from the TOR scores differ significantly from those based on the ASA scores. According to the TOR scores, CHÂTEAU VALTICE - Vinné sklepy Valtice, a.s., Mattoni 1873, a.s., and Walmark, a.s. were identified as the companies with the strongest reputations.

However, when examining the means of ASA and TOR scores using a two-sample paired t-test for dependent samples at a significance level of $\alpha = 0.05$, it was not confirmed that the reputation calculated through ASA scores was, on average, different from the reputation based on TOR scores. This confirmed the null hypothesis $H_0: \mu_{ASA} = \mu_{TOR}$. However, when regression and correlation analysis was conducted on companies with the most common evaluation determinants—ultimately including only 4 out of the 10 companies—it was found that there is a stronger direct relationship between TOR scores and revenues compared to ASA scores and revenues, with a correlation coefficient of $r = 0.091794015$. The problem here, however, is that none of the calculations showed statistical significance, which was always attributed to the very small sample size of companies. If the issue of the small sample size is disregarded, regression and correlation analysis confirmed a causal relationship between TOR scores and revenues from own products, which supports the assertion by Jiao et al. (2021) that a company's reputation influences its performance in the expected direction.

Through regression analysis of TOR scores and revenues, illustrated in Graph n. 4, and correlation analysis, as presented in Table n. 1 with a correlation coefficient of $r = 0.841283766$, it was demonstrated that the value of the correlation, approaching 1, and satisfying the condition $|r| > 0.8$, indicates a strong direct relationship between TOR scores and revenues from own products and services for 4 out of the 10 analyzed companies.

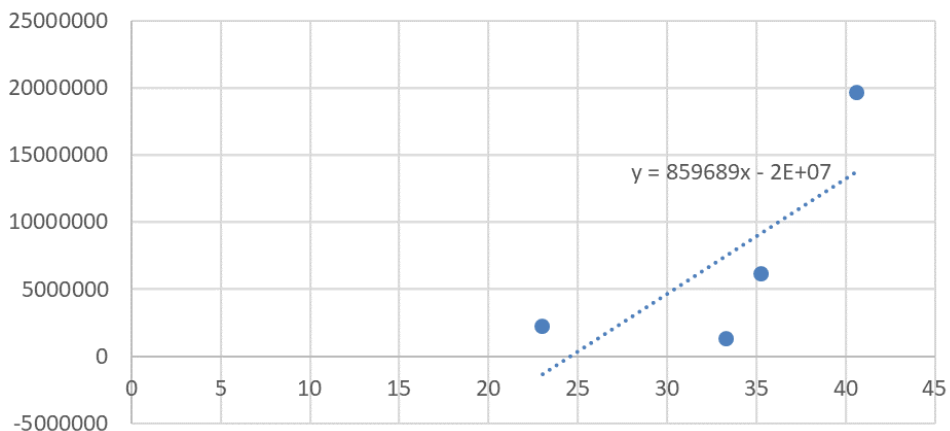
Graph 4: Regression and Correlation Analysis of TOR Scores and Revenues - Evidence of Correlation



Source: own collaboration

The hypotheses were further analyzed using a paired t-test to examine the statistical significance of the correlation coefficient r . The result was a p-value of 0.183929414, which indicates that since $p > 0.05$, the correlation analysis is not statistically significant. This is primarily due to the very small sample size of companies.

Graph 5: Regression and Correlation Analysis of ASA Scores and Revenues - Evidence of Correlation



Source: own collaboration

Although the sample size was determined to be too small to draw generalizable conclusions from the regression and correlation analysis, it was deemed necessary for this study to evaluate whether ASA or TOR provided a more effective measure. Consequently, regression and correlation analysis was performed on the same subset of 4 out of the 10 companies with the strongest reputations (see Table n. 1), examining the relationship between ASA scores and revenues, as depicted in Graph 5. The correlation analysis revealed a correlation

coefficient of $r = 0.749489751$, indicating a moderate positive relationship between ASA scores and revenues. However, hypothesis testing failed to confirm the statistical significance of this correlation, as the p-value was 0.18392853.

Conclusion

This research aimed to explore the relationship between two distinct reputation measurement methodologies TOR and ASA scores and company revenues. By analyzing data from ten companies, with a focused subset of four companies due to data availability, the study sought to assess how effectively these methodologies capture the reputation revenue relationship. The findings provide meaningful insights, albeit with notable limitations that warrant further investigation. The results indicate a stronger correlation between TOR scores and revenues, with a correlation coefficient of $r = 0.841$, signifying a strong direct relationship. This suggests that TOR scores are better aligned with financial outcomes, particularly revenues from own products and services. On the other hand, ASA scores showed a moderate positive correlation with revenues ($r = 0.749$), indicating that while ASA captures aspects of the reputation revenue dynamic, it is less robust compared to TOR in this context. The key difference between the methodologies lies in their approach to assessing reputation. TOR scores appear to enclose determinants more directly linked to financial outcomes, while ASA scores may reflect broader sentiment that is less directly tied to revenue generation. This distinction is critical for businesses aiming to use reputation as a strategic tool for performance assessment and decision-making. However, the study's conclusions are constrained by the small sample size, which impacted the statistical significance of the findings. P-values for both TOR and ASA analyses exceeded the standard threshold (> 0.05), underscoring the need for caution in generalizing these results. The limited sample size was a primary factor affecting the reliability of the statistical analyses, as it reduced the power of hypothesis testing and regression models. Despite these limitations, the findings align with existing literature, such as Jiao et al. (2021), which emphasizes the impact of reputation on corporate performance. This study reinforces the notion that corporate reputation, when measured effectively, plays a critical role in influencing financial outcomes. The results suggest that businesses should prioritize developing and maintaining a strong reputation as it correlates positively with financial success. From a practical perspective, the study highlights the importance of selecting appropriate reputation metrics. Companies may benefit from using TOR scores for financial performance assessments due to their stronger correlation with revenues. Additionally, organizations should consider integrating these insights into broader strategic frameworks to optimize reputation management as a driver of competitive advantage. For future research, addressing the sample size limitation is paramount. Expanding the dataset to include a larger and more diverse set of companies would enable more robust statistical analyses and increase the generalizability of the findings. Moreover, exploring other variables that may mediate or moderate the relationship between reputation and revenues such as market conditions, industry type, and consumer behavior could provide a more comprehensive understanding of this dynamic. In conclusion, while this research offers valuable insights into the relationship between reputation measurement methodologies and revenues, it also highlights the complexities and limitations inherent in such analyses. The study sets the stage for further exploration into reputation metrics, providing a foundation for enhancing the strategic use of corporate reputation in financial performance evaluations.

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Regional Risk Analysis and Development Trends in Food Retail under Military Conflict: The Case of Ukraine¹

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Abstract

This article analysis the risks and development trends of the food retail sector in Ukraine's regions during a military conflict. A combined approach is used, integrating both quantitative and qualitative research methods. The risk level assessment is based on six key criteria: physical security, logistics and supply, economic activity, infrastructure, recovery potential, and demography. Weight coefficients are applied to determine the significance of each criterion. Additionally, the article systematizes data on the dynamics of store openings by major retail networks during 2019-2024 and provides a regional analysis of Ukraine in terms of threats and strategic opportunities for retail development. The findings reveal not only a pronounced regional differentiation of risks but also a set of stable development trends within the sector: an increase in the number of retail outlets, intensified activity in relatively safe regions, the entry of regional players into the market, and the growing share of min-market and convenience store formats.

Key words

Development trends, food retail, military conflict, region, risk, Ukraine

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Introduction

The functioning and development of the food retail sector are crucial for the country's economy. Companies in this sector supply the population with food and provide considerable tax revenue for the budget and jobs. With the outbreak of military action, Ukrainian retailers faced significant problems: loss of retail outlets, mobilization of personnel, disruption of supply chains, destruction of warehouses, reduction of purchasing power of the population, etc. However, despite this, companies have learned to adapt to difficult business conditions and continue to operate.

The analysis of risk levels in the regions of Ukraine under conditions of military conflict is highly important for retailers, as it enables them to make well-founded decisions regarding territorial deployment, logistics chain optimization, selection of retail formats, adaptation of product assortment strategies, and allocation of financial resources. This approach enhances business resilience, minimizes losses, and ensures an effective response to changes in the external environment.

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1 Methodology

The aim of the article is to analyse the level of regional risks and identify development trends in food retail in Ukraine in the context of military conflict. The methodology is based on combined approach that integrates both quantitative and qualitative methods of analysis. Six criteria are used for the quantitative assessment of risk levels (Tab.1).

Tab. 1 Risk assessment criteria in food retail under military conflict

Criterion	Description	Weight in Assessment	
Physical Security	Frequency of shelling, proximity to frontline, presence of mines and destruction	0.25	High
Logistics and Supply	Availability of transport routes, warehouse operations, supply chain stability	0.25	High
Economic Activity	Demand for goods, employment, income level, population density	0.15	Medium
Infrastructure	Condition of roads, electricity, water supply, communications	0.20	High
Recovery Potential	Involvement of local authorities, recovery programs, business support	0.05	Low
Demography	Population inflow/outflow, availability of workforce, migration impact	0.10	Medium

Source: compiled by the author based on T. Ponomarenko & D. Rasshyvalov, 2023, pp. 505-506; M. Hryhorak, M., & A. Dimitrova, 2024, p. 68.

Weight coefficients are applied to determine the significance of each criterion.

The risk level for each region is calculated using the following formula:

$$R_i = \sum_{j=1}^n (C_j \times W_j)(1)$$

R_i - Total risk score for region i .

C_j - Criterion value j for region i .

W_j - Weight coefficient of criterion j .

n - Total number of criteria.

The final risk indicator ranges from 0 to 1, where 1 represents the maximum risk. The resulting values allow for the classification of regions according to the established risk scale: 0.0–0.3 – low, 0.3–0.6 – medium, 0.6–0.8 – high, and 0.8–1.0 – critical.

The information base of the research consists of data from the State Statistics Service of Ukraine, the Association of Retailers of Ukraine, GT Partners, international organizations (UN OCHA, World Bank), as well as scientific publications.

2 Results and Discussion

In modern conditions, Ukrainian companies face numerous risks and threats caused by military actions. Gontareva et al. (2023) identify the following risks of doing business during war: occupation of territories, loss of sales markets, instability in financial markets, destruction of supply chains, energy shortages, expensive credit resources, and mobilization of employees.

According to Hryhorak and Dimitrova (2024), the risks associated with the armed conflict in Ukraine are more concentrated and have a direct impact on the country's logistics infrastructure. Their risk classification includes border restrictions and delays, military actions, energy stability risks, blocked ports, instability of supplies, and export flows.

The article by Stepasyuk and Starominskiy (2024) analyses modern trends in the development of network retail, considering its peculiarities of functioning in the context of global crises and war. The disruption of key supply chains, the suspension of imports from the Russian Federation, the destruction of warehouses, the loss of retail outlets, the mobilization of personnel, and the reduction in the working hours of retail chains are highlighted as the main challenges faced by Ukrainian food retail.

According to Pavlova (2022), the state of retail enterprises and the product structure change under the influence of factors related to martial law, territorial changes, and the speed of network recovery.

Despite individual studies focused on business risks in the context of armed conflict, the issue of their differentiated assessment for the food retail sector across regions of Ukraine remains insufficiently explored. Meanwhile, such an assessment is essential for developing an adaptive strategy for the industry's sustainable development.

2.1 Dynamics and main trends of food retail development in Ukraine under the conditions of military conflict

The food retail sector accounts for approximately 21% of Ukraine's total retail trade volume (Association of Retailers of Ukraine, 2024). The largest operators in this segment are companies that manage networks of at least three retail outlets. Currently, they oversee around 7,000 stores that encompass a wide range of formats, including supermarkets, convenience stores, minimarkets, hypermarkets, discounters, cash and carry, and delicatessen (Wynne-Jones, 2023).

An analysis of food retail development over the past six years shows a steady increase in the number of retail outlets during the COVID-19 pandemic. For instance, in 2021, national operators ATB-market and Fozzy Group opened 113 and 102 stores, respectively. Changes in consumer demand, including a decrease in spending on necessities, contributed

to the growth of minimarket and convenience store formats such as Nash Kray, KOLO, Sim23, Rukavychka, and Fine Market (Tab.2).

Tab. 2 Change in the number of stores of leading food retailers in Ukraine in 2019-2024

Company	Network	2019	2020	2021	2022	2023	2024
ATB-market	ATB, ATB express	1077	1201	1314	1162	1187	1257
Fozzy Group	Silpo, Fora, Fozzy Cash&Carry, Thrash!	561	612	714	692	709	826
VolWest Retail	Nash Kray, SPAR	274	281	278	249	252	276
ARETAIL	KOLO	105	221	252	221	228	246
Lviv Cold	Rukavychka	160	179	185	200	200	217
Clever Stores	Sim23, Simi	74	89	126	167	194	315
Veresen Plus	Fine Market	83	95	120	139	156	198

Source: compiled by the author based on data from the Association of Retailers of Ukraine for 2019-2024

Regionally, the highest number of store openings occurred in Western Ukraine (28%), Kyiv (21%), and Eastern Ukraine (17%), primarily due to the concentration of purchasing power in these areas (Zhovnovach et al., 2023).

The major challenges faced by Ukrainian retail following the outbreak of military conflict included disruptions in product supply, the breakdown of logistics routes, shelling, prolonged air raid alerts, loss of personnel, and an energy crisis. During the first month, 25-30% of retail outlets belonging to individual national networks were closed (Naumova et al., 2023).

Despite significant losses caused by the hostilities, the retail sector demonstrated a strong capacity for recovery. According to the Association of Retailers of Ukraine (2024), by 2023-2024, most retail networks had resumed active development: new stores were being opened, and previously closed locations were returning to operation.

Interest is represented by the ranking of leaders in the food retail sector in 2024. Against the backdrop of the ongoing conflict, the largest players remain ATB, Fozzy Group, and VolWest Retail; however, Fozzy Group demonstrates the greatest growth dynamics, increasing the number of stores from 714 in 2021 to 826 in 2024.

VolWest Retail, which develops the Nash Kray and SPAR networks and operates on a franchising model, demonstrates a similar trend. As of 2024, both had 276 operating outlets, while in 2021, there were 278.

At the same time, regional companies are strengthening their positions in the market, particularly Clever Stores (brands Sim23 and Simi), which opened 87 new retail locations. Alongside it, other actively developing retail operators include the Kyiv-based convenience store' network KOLO, which opened 25 new stores, as well as the retailer Veresen from Kropyvnytskyi, which opened 27 new stores (Tab. 3).

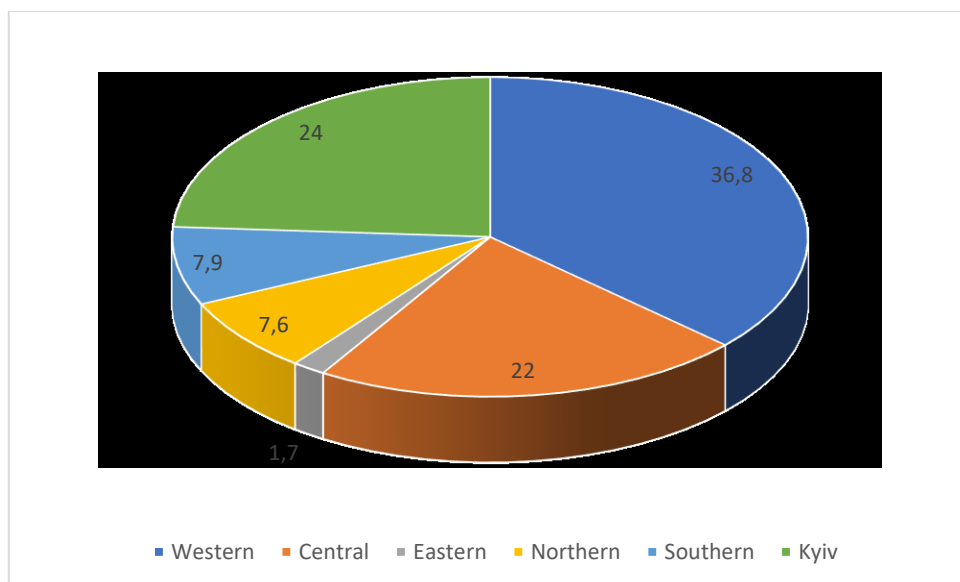
Tab. 3 Top food retailers in Ukraine by number of operating stores in 2024

Company	Network	Central Office	Number of outlets	Number of open stores	Number of closed stores
ATB-market	ATB, ATB express	Dnipro	1257	47	3
Fozzy Group	Silpo, Fora, Fozzy Cash&Carry, Thrash!	Kyiv	826	84	32
VolWest Retail	Nash Kray, SPAR	Lutsk	276	28	21
ARETAIL	KOLO	Kyiv	246	25	8
Lviv Cold	Rukavychka	Lviv	217	10	5
Clever Stores	Sim23, Simi	Lutsk	315	87	0
Veresen Plus	Fine Market	Kropyvnytskyi	198	27	1

Source: Association of Retailers of Ukraine, 2024

One of the main ways to preserve and develop the trading business, as well as a method of diversifying risks in the context of military actions, has been its relocation, primarily to the western regions of Ukraine (Graph 1).

Graph 1 Regions of Ukraine where stores opened in 2024, %



Source: GT Partners Ukraine, 2024

According to data from GT Partners Ukraine (2024), 36,8% of all new stores in 2024 were opened in the western regions, which is attributed to both relative safety and a significant increase in the number of consumers due to internally displaced persons. Typically, these are small-format retail outlets focused on local needs (Sim23, Sim).

The second most significant region for food retail remains the city of Kyiv and the Kyiv region. In 2024, this region accounted for about a quarter (24%) of all newly opened retail outlets, which is due to the concentration of major financial flows and high population density. Notably, two-thirds of all new for a stores and half of the retail locations of the Trash network were opened here.

In the central region of Ukraine, there is also an increase in business activity. In 2024, this region accounted for 22% of the total number of newly opened retail outlets. This figure is largely due to the dynamic development of regional networks, among which Fine Market, with its central office in Kropyvnytskyi, stands out.

At the same time, the share of new stores in the northern and southern regions of the country, which are essentially frontline territory, was 7,6% and 7,9%, respectively. The least favourable situation is observed in eastern Ukraine, where only 1,7% of new retail facilities were opened in 2024.

2.2 Regional analysis of the level of risks, threats and opportunities for the development of retail trade in 2024

The geographical distribution of new retail outlets in Ukraine during the armed conflict is determined by a combination of factors, with physical security playing a key role. However, to justify the choice of a region, it is also necessary to consider logistical accessibility, the level of economic activity, the condition of critical infrastructure, recovery potential, and the demographic situation. A comprehensive assessment of these factors makes it possible to form a more objective picture of regional differences in the level of risks and opportunities for food retail.

The results of the risk level assessment for food retail based on the specified criteria are presented in Table 4.

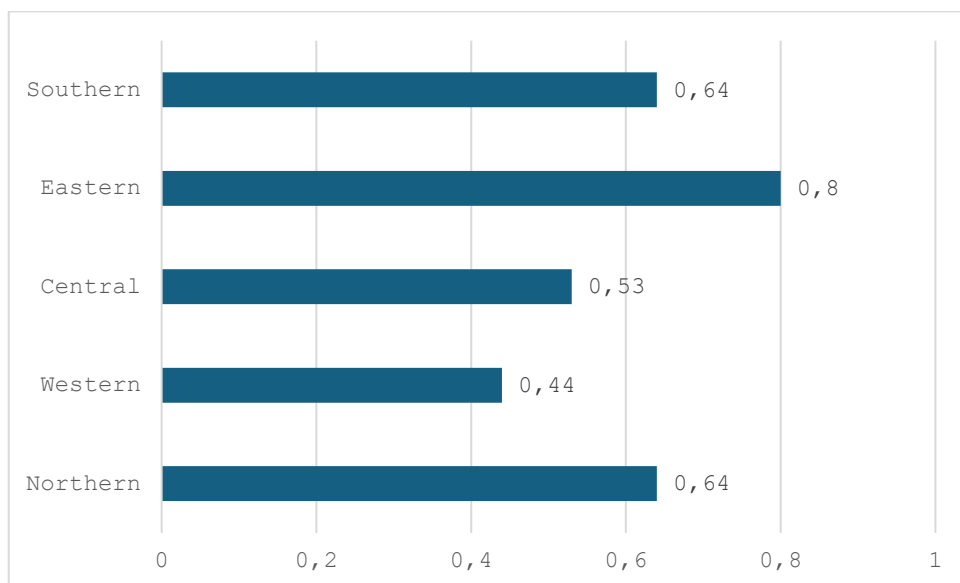
Tab. 4 Risk assessment for food retail in regions of Ukraine

Region	Physical Security	Logistics and Supply	Economic Activity	Infrastructure	Recovery Potential	Demography
Northern	0.8	0.7	0.5	0.6	0.4	0.5
Eastern	1	0.9	0.6	0.9	0.3	0.4
Central	0.4	0.5	0.7	0.5	0.6	0.7
Western	0.2	0.3	0.8	0.4	0.7	0.8
Southern	0.7	0.6	0.6	0.7	0.5	0.6

Source: compiled by the author based on data from ACLED, the State Statistics Service of Ukraine, UN OCHA, and the World Bank

Graph 2 illustrates the integrated risk indicators calculated using the formula for food retail enterprises by region in Ukraine in 2024.

Graph 2 Total risk scores by region for food retail networks in Ukraine



Source: own processing

To gain a deeper understanding of the research issues, a comparative analysis of the regions of Ukraine has been conducted, focusing on the main threats and opportunities for the development of food retail enterprises.

The eastern regions, with an integral risk score of 0.8, remain the most unfavourable due to ongoing hostilities, destruction of critical infrastructure, and mass population outflow. Nevertheless, even under such extreme conditions, opportunities exist to establish temporary logistics and participate in humanitarian supply deliveries through cooperation with international and governmental organizations.

In the central regions of Ukraine, a moderate risk level (0.53) is identified. Despite the decline in consumer purchasing power and logistical constraints, there remains potential for the expansion of retail networks due to a relatively stable social and economic situation, as well as a functioning business environment, which creates conditions for sustaining and developing commercial activity.

The western regions (0.44) proved to be the least vulnerable, making them the most attractive in terms of long-term development. The main opportunities here include population growth due to internally displaced persons, stable functioning of logistics systems, as well as relative physical safety and infrastructure preservation, which create favourable conditions for the expansion of food retail.

Tab. 5 Regional analysis of the main threats and opportunities for enterprises in the food retail sector in Ukraine

Region	Total Risk Score	Level	Main threats	Opportunities
Northern	0.64	High	Proximity to frontline, infrastructure damage, and a limited workforce	Gradual stabilization, moderate market recovery potential
Eastern	0.80	Critical	Active hostilities, total infrastructure collapse, population outflow	Engagement in humanitarian supply chains, long-term potential for retail infrastructure recovery
Central	0.53	Medium	Logistics problems, decreased demand	Opportunity to expand the market
Western	0.44	Medium	Infrastructure congestion, rent increase	Relative safety, population growth due to internally displaced persons (IDPs)
Southern	0.64	High	Threats of missile strikes disruptions at ports	Import logistics, port potential

Source: compiled by the author based on D. Hillson, 2004, p. 67.

Conclusion

The research results indicate that the Ukrainian food retail sector demonstrates resilience despite the ongoing military conflict. There is a significant variation in risk levels across regions: the eastern, northern, and southern regions of Ukraine are characterized by critical and high levels of threats due to active hostilities, proximity to the front line, missile strikes, logistical disruptions, and infrastructure destruction. Meanwhile, the central and western regions are relatively safe and are becoming new centres of retail activity. However, the risk levels across Ukraine range from medium to critical, indicating that there are no completely safe areas, nor are there any regions with minimal threats.

In addition to the regional differentiation of risk levels, several stable trends have emerged in the industry, reflecting the ability of businesses to adapt to extreme conditions. These trends include:

1. Relocation to safer regions, primarily to the western part of the country, where over one-third of all new retail outlets in 2024 were opened.

2. Gradual recovery of national retail chains. Despite the significant losses sustained in 2022, by 2023, the largest national operators — ATB, Fozzy Group, and VolWest Retail — had resumed their expansion strategies. The most dynamic growth is observed in Fozzy Group, which manages the Silpo, Fora, Fozzy Cash&Carry, and Thrash chains, and has increased the number of its stores by 112 compared to pre-war levels.

3. Growing importance of regional networks. The positions of operators with a high degree of operational flexibility, a localized management system and the ability to quickly adapt to changes in market demand are strengthening. An example is the Clever Stores network, which is actively developing in Western Ukraine.

4. Expansion of the convenience store and minimarket formats. In the conditions of the crisis and the decline in purchasing power of the population, the popularity of convenience stores with a limited but basic assortment is growing. Networks developing these formats (Sim23, KOLO, Fine Market) demonstrate the highest growth rates.

Thus, despite the high level of regional risks, Ukrainian food retail demonstrates stability, the ability to recover, and signs of structural transformation. The results obtained can be used to develop adaptive development strategies, regional planning and to increase the resilience of retail trade in the context of ongoing military conflict.

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